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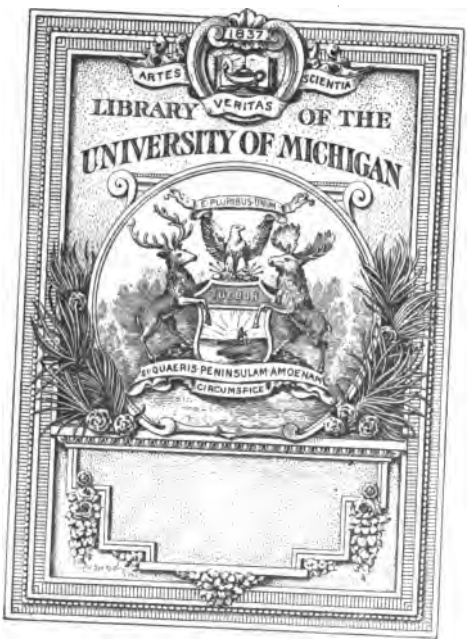
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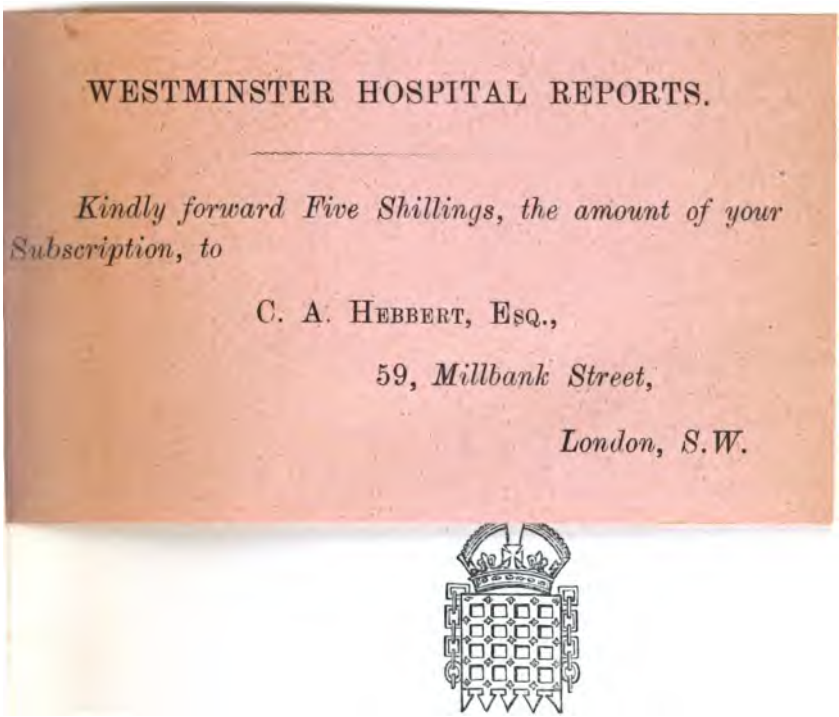
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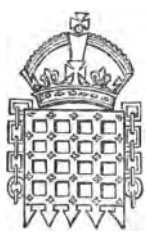

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THE

TEMPERATURE OF YOUNG CHILDREN

IN

HEALTH AND DISEASE.

*A Lecture given at the Hospital for Sick Children.**

By Dr. STURGES.

Years ago I listened to a lecture by Dr. West, then our senior physician, upon the subject I propose bringing before you to-day. I well remember it. The measurement of disease by its temperature was at that time comparatively new; hardly more had been accomplished than to direct attention to it; and so the lecturer's remarks had much reference to the future. What place in practical medicine was the clinical thermometer destined to take? How far would it serve to make diagnosis more exact or prognosis more secure? The time has arrived when some answer should be attempted to such questions. Temperature taking has now for many years been a routine

* Most of the temperature charts in illustration of this lecture (including those taken hourly and at no small pains) were supplied by the Westminster Hospital. Our uniform practice of taking four-hour temperatures in every case has been of great service to me, especially in comparing the child with the adult. It will be observed that some two or three of the charts shown at the lecture and referred to in the text are, from motives of economy, not here reproduced.

observance, it entails much expenditure in time and some in money. What is the use of it?

Certainly its use is not without drawbacks. That much was early learnt, and especially in the case of children. Everyone is now aware that a single observation of temperature, especially towards night, is of small significance in these young subjects, their body heat, like their tempers, being variable and capricious, and apt to undergo considerable oscillation from trivial causes and with no apparent change in health. More than this, the proper range of body heat is said to be wider in children than in adults, while at the same time there are certain characters of temperature to which we have learnt to attach a pretty definite meaning in grown persons, but which are of very ambiguous signification in early life. In a word, the interpretation of temperature in childhood is not easy, it needs study and continuous observation. What is the actual yield in recompense we may inquire presently. It is obvious already that casual temperature taking in children is not merely useless, it is misleading and often mischievous.

Thanks to the labours of many observers—of Ogle, Fröhlich, Lichtenfels, Gierse,* and others—the character and diurnal variations of the adult temperature in health are sufficiently well known. Speaking generally the body heat tested by the mouth varies from about 98·6° to about 97·8°, age and temperament being probably accountable for small individual differences. Temperature is lowest in the small hours of the morning (from 2 to 6 a.m., but earlier, I think, than Dr. W. Ogle puts it), it rises throughout the early day, and in the afternoon (about 6 or 7) it begins to sink, and continues in descent through the night until it again reaches its lowest point. The total range of adult temperature, according to Ogle, is a degree and a half. According to Fröhlich and Lichtenfels (both young men, aged twenty-two, whose observations were made on themselves), it does not exceed a degree. Exercise and food seem to exert some slight influence in raising temperature; fatigue seems slightly to depress it.

Of the child's health temperature we may not speak so precisely. Yet I venture to think, and shall presently try to show, that by adherence to a strict definition, both in regard

* 'St. George's Hospital Reports,' vol. i; Schmidt's 'Jahrbuch,' Oct., 1852.

to age and in regard to health, greater precision is here attainable than some suppose. As for age, considering that even amongst adults the time of life has some concern in the body heat, it is obvious that the term childhood is too wide for our present purpose. It needs at the least three divisions, early and late childhood as well as infancy. What I have to say to-day has reference exclusively to the young child, to that separate and distinct being, past infancy and teething time, yet short of the more serious period of childhood, when physical and mental training commence. This well-defined stage of life has its own proper characteristics, including, it is likely enough, those of temperature. And a like limitation seems necessary in respect of health. There is health absolute and health relative. I doubt very much, for reasons that will appear immediately, whether children in hospital convalescing from illness are suitable examples to furnish a standard of health. If we know anything in regard to the child's temperature it is this, that after being disturbed by illness it takes a long time to settle down. What these hospital children really show is that there is a convalescent temperature distinguishable from that of perfect health.

Such remarks, both as to age and as to health, are applicable in some measure to Dr. Finlayson's valuable and careful observations on the normal temperature of childhood.* The eighteen children referred to by this physician varied in age from two to over ten; while, as regards health, although they were accounted healthy by so competent an observer, yet they were still in hospital, and some of them had suffered from complaints—hæmatemesis, renal dropsy, mesenteric disease—which, as their sequelæ often remind us, are not readily thrown off.

Reckoning from such data and on a careful computation of averages, Dr. Finlayson finds that the child's temperature at its highest point—that is to say, at about 6 in the afternoon—exceeds that of the adult by about one degree, while its daily range is between two and three degrees or more than twice

* 'Glasgow Medical Journal,' Feb., 1869. Reference may also be made to Dr. Cassell's paper in the same journal, "Normal Temperatures in Infancy and Childhood," Feb., 1867, and to Dr. Squire's communication to vol. x of the Obstetrical Society's 'Transactions.' This last, however, concerns infants only.

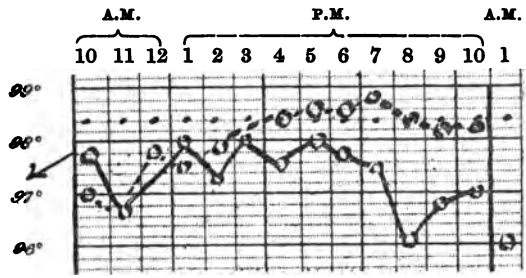
that of the adult. His highest reading in the rectum (which may be taken at ·7° higher than the axilla) exceeds 100°, while the lowest (early morning) is 97°. His conclusions are: (1) that the daily (twenty-four hours) range in the healthy child is between two and three degrees; (2) that there is invariably a fall of one, two, or three degrees in the evening, the usual time of this fall being between 7 and 9, although it may occur earlier; and (3) that the minimum temperature is reached at or before 2 a.m. [that is four hours earlier than Dr. Ogle makes it.] The fluctuations between 9 a.m. and 5 p.m. he believes to be trifling.

In my own observations now to be detailed I have confined myself throughout, for the reasons stated, to children under six not infants. The so accounted healthy children I have placed in three categories. First are those recovered from some acute illness yet still in-patients and only at the opening of convalescence. Although apparently well they are the least removed from illness. Next come children who upon convalescing have been sent into the country (*i. e.* to our Convalescent Hospital at Highgate) to recover flesh and strength. These are further removed from illness, and some of them, retained for special reasons, may be accounted absolutely well. Thirdly, I take children who have nothing to do with illness or with hospital, two remarkably healthy specimens, one and two years old respectively, living with their parents in the country, and who have suffered from no infantile or other ailments.

My first class consists of patients of the Westminster Hospital. Of these I have a large number of examples; some of them—thanks to the zeal and assiduity of the Sister of Queen Adelaide Ward—taken hourly. They are axilla temperatures, and to compare with Dr. Finlayson's must be heightened ·7°. Let me call your attention to two of them. Here is an hourly temperature of a boy of three, admitted for alarming laryngismus, but at the time of these readings apparently well in all respects and allowed to be up. The observations were taken hourly (from 10 a.m. to 10 p.m.) for two days in succession, the thermometer being retained in the axilla ten minutes each time. Small-hour morning readings were also taken, namely, at 1 and

at 2, to make sure that the full range of temperature was obtained :

EARLY CONVALESCENCE—HOURLY TEMPERATURE.*
John Leary, æt. 3.
(The dotted line represents day following continued line.)



We have here reproduced the readings of two consecutive days, the dotted line following the continued line ; the range each day is exactly two degrees, *early* afternoon being its highest on the first day, evening and midnight its lowest, and between 7 and 8 p.m. the time of its fall. True to the character of convalescent temperatures in childhood it is subnormal, touching 96° at its lowest. But notice on the second day (the child's condition to all appearance remaining unaltered) the general level of temperature (the dotted line) is raised by a degree, although its range is still the same as before, namely, two degrees. For the greater part of this day the tracing is steady and on the normal line ; it is only in the early morning that, falling below 97°, it still retains something of its subnormal tendency of the previous day.†

The next example is that of a boy, aged 5, convalescent after enteric fever. Like the other, he was out of bed some hours of each day. Observations were taken hourly from 10 to 10 as before. It will be seen that, while the range of temperature is again two degrees, the highest reading is at 1 p.m., and throughout the afternoon the reading oscillates from hour

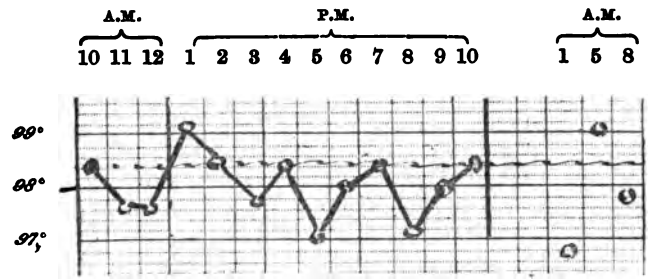
* Unless otherwise stated all the charts here figured refer to the axilla.

The plan of numbering the hours from 1 to 24 in temperature observations, although not here adopted, is of obvious convenience to prevent confusion between day and night. (See chart on p. 16.)

† It will be noticed that in the charts which follow the normal line is placed at 98·4° in the Westminster form, and at 98·6° in the Great Ormond Street form (pages 7 and 8).

to hour by a degree or more. I may add, to contrast with the readings given in the chart, that at 1, 5 and 8 a.m., preceding the day here figured, the register was 97° each time.

CONVALESCENCE—HOURLY TEMPERATURE.
Robert Littley, æt. 5.

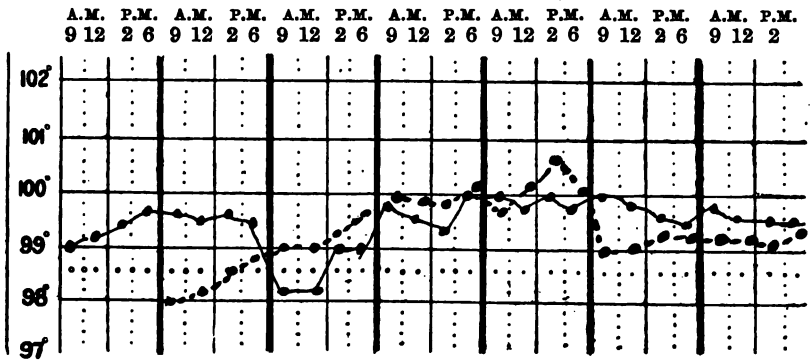


Further examples might be given. They all tend to show that, at this early stage of convalescence, the temperature tracing varies from day to day paradoxically; that its daily range is two degrees or more; that the oscillations from hour to hour are apt to be considerable; that the proper rise of the afternoon is often absent; and that there is a marked tendency to the subnormal (especially, as we shall see, in the nervous cases).

I come now to my second class, young children who upon convalescence have been moved from the hospital ward to the country away from all the conditions and associations of hospital life. We have here a representation of the body heat of two such children, a boy (continued line) and a girl (dotted line), again five years old each. The observations were taken in the mouth, and for comparison with those just given must be slightly reduced.* They were made four times daily for seven consecutive days. Both children seemed in perfect health.

* From several trials upon children I conclude that the axilla temperature is from ·2° to ·4° below the mouth temperature. The smaller difference is, I believe, the commoner. In estimating healthy temperatures physiologists have generally chosen the mouth for their observations, but this is manifestly inconvenient, if not impossible, in young children and in serious illness. We are left to choose, therefore, between arm and rectum, and no doubt good reasons can be urged for preferring the latter in the case of children. But it is very desirable to have a single standard of measurement applicable to all subjects alike, and the difficul ties in the way of rectal observation in adults as a routine proceeding are insuper-

CONVALESCENCE—DAY TEMPERATURE (MOUTH).
Henry Clarke, æt. 5 (continued line).
Phyllis Wilmot, æt. 5 (dotted line).



It will be seen that the boy's temperature is fairly equable for the first two days here represented, yet above the normal by more than half a degree. It is then subnormal for the earlier half of a day, when it ascends through nearly two degrees, remaining at or a little below 100°, with but little oscillation, for three days more. The girl's temperature was in continuous ascent for two days, rising steadily in that while from 98° to 100°. On its third day it remains steadily at this latter point, but on the day following in the early afternoon approaches 101°. It then descends, and on the two last days shown on the chart is very equable and scarcely appreciably above the normal of a mouth temperature.

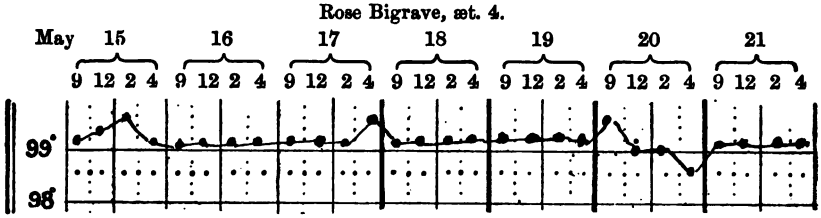
These tracings differ manifestly from those which go before, both as regards the range and the individual oscillations of temperature. There is, indeed, if the entire period be taken, a range of as much as two degrees, but the *daily* range is well within a degree, and on several occasions the four readings of the day are practically the same. Moreover, the elevated temperature presently descends, and, in the case of the girl at least, we had four days (only two of which are here given) of equable normal body heat. Grant that, except for the

able. It is, after all, the character of the temperature tracing that we want rather than the precise body-heat to a single decimal point; and if care be taken to keep the instrument as well as the arm in position, and as much as eight minutes be allowed for each observation, the chief objections to axilla temperatures are removed.

experiment, this continuous rise of temperature in a child apparently well would never have been suspected, and that it is inexplicable; grant too that in the absence of midnight and small-hour readings it is impossible to say precisely what the full temperature range may have been. Yet still, considering the small daily variations and the reversion after a few days to a normal heat, the chief morbid characteristic which this tracing exhibits is that of instability. It has much resemblance both in height and range to Dr. Finlayson's, and bears out his statement that the fluctuations between 9 a.m. and 5 p.m. are trifling. Such instability of temperature, indeed, as is here shown, disappearing as it does in these two children after a few days, seems but the lingering shadow of byegone illness, which will presently pass away.

I take next a child of four, still in my second class, and technically convalescent. But, though still detained owing to ringworm, it was reckoned that the girl had been in perfect health for six months. And here is her mouth temperature taken four times daily for over a week:

END OF CONVALESCENCE—DAYTIME TEMPERATURE (MOUTH).
Rose Bigrave, æt. 4.



It must not be supposed that we have here, any more than in the former case, a complete record of the twenty-four hours. We have, no doubt, the highest, but not the lowest, reading; and it is very equable, and (for a mouth temperature) hardly above the normal. For the first time, and with a presumably healthy child, we get from day to day, with but few breaks, *stability* of temperature.*

* It will be noticed that the four observations of each day in this example cover only seven hours, both early morning and late evening being omitted. It is too defective, therefore, to witness anything as to temperature *range*. Yet for the purposes for which I use it, as an illustration of day stability, it is amply sufficient.

In my third and highest grade I reach, as I suppose, the standard of perfect health; two sturdy boys of one and two years respectively living sober open-air lives in the country remote from excitement, and as yet undisturbed by mental problems. A series of forty observations upon these subjects will be better described than figured. The readings were taken in the axilla, ten minutes each time, at various hours from 10 a.m. to midnight. *No reading was ever taken over* 98·6° (the normal line as some reckon), and only once in exceptional circumstances of fatigue was it found as low as 96·8°. The usual range was from 98·6° to 97·4° representing 1·2°, but occasionally the lowest (evening) temperature was 97·2°. It happened repeatedly with both children that after a reading of this sort had been taken on going to bed tired, a second trial at midnight, and after some hours of sleep, found the temperature risen and near 98°.

Now, inasmuch as these observations were made frequently, and at such times of the day as the body heat is the highest, it seems certain that the great elevation of temperature, which, according to Dr. Finlayson, is the child's peculiarity, was here absent. It is possible, however, and indeed likely, that the inferior limit of heat has been sometimes missed because early morning readings are wanting. Allowing for this we may conclude, from the facts before us, first, that the upper limit of temperature in healthy young children is fairly constant, and not appreciably different from that of adults; and secondly, that the inferior limit *is* somewhat different, inasmuch as it is less constant and apt to be lower than in later life, approaching 97°, and under fatigue even sinking below that point.

The following conclusions are those of the original observer of these two children:

1. The body heat may be said to range between 97·3° and 98·6°. The elder, two-year-old child, who can run about, has a more uniformly low temperature than the younger, who is one year old, and can only stand. At the same time the two have often precisely the same temperature to a decimal point.

2. The highest temperature is undoubtedly reached after breakfast, say 10 a.m., when the child is "fittest," satisfied with a good meal, and eager for play.

3. In the hottest weather of an evening the readings were uniformly low (97·3° or thereabouts).

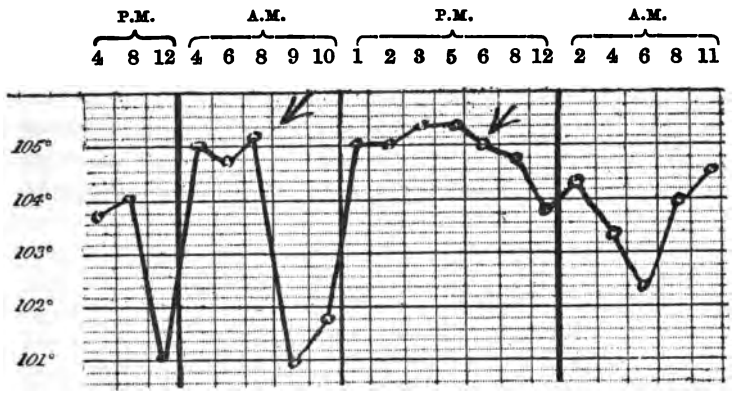
To sum up, making allowance for errors in detail, the broad conclusion is, not that the normal temperature of young children differs from that of adults in range or in height, but that it is less stable, disposed to take dips or flights, and that when disturbed it takes a far longer time to settle down. If, therefore, an equable body heat is the true test of health, it is obvious from what has gone before that in the case of children a period of very uncertain duration intervenes between apparent recovery and full recovery. And if that be so, it is probable that we have in the thermometer, as yet unrecognised, an instrument of precision of the greatest value, and which has been long needed in the interest of childhood. It is a familiar experience that with these subjects trivial ailments leave grave liabilities. Some of the commonest morbid changes of early life—enlargement of bronchial or mesenteric glands, destructive lung mischief, the development of tubercle—take their origin very insidiously after measles, or whooping-cough, or pulmonary catarrh. It may be, I say, that this variability of temperature, which so remarkably distinguishes convalescence in young children, is the very sign we are in want of, and that the return of the child's body heat to a normal and equable level furnishes a nicer test of immunity from such sequelæ than any we use at present.

So much for the temperature of health and of convalescence. How is it with disease? It seems strange that with the introduction of the thermometer to measure pyrexia no more precise *method* of use should have been laid down than that which is implied in a morning and an evening reading. What *is* morning and what evening in this matter? The highest temperature of the day, as we have just seen, may happen at 10 a.m., and habitually the lowest is some four or five hours earlier. A morning and evening reading, therefore, may be so timed as to exhibit no variation at all for the twenty-four hours, notwithstanding that the actual variation has been considerable. Add to this that with pyrexia—and especially the pyrexia of young children—the highest and the lowest diurnal register may fall indifferently at any hour of the day or night,

so that the utmost vigilance of observation may fail to catch it.

Here, for example, is a copy of the pyrexia of an infant under a year old, a rare instance of fatal lobar pneumonia at that early age. Twelve observations were taken for one day, viz. from 4 a.m. to the following midnight, as represented in the chart:

LOBAR PNEUMONIA—2-HOUR TEMPERATURE.
Edward Addison, under 1 year.



It will be seen that the actual range of temperature for the one day exceeds 4°. But if the observations had been taken at 8 a.m. and either 6 or 8 p.m. and no more, as is customary, the variation for the day would have been hardly appreciable. On the fifth day, after the fall here depicted resembling that of recovering crisis, the child died.

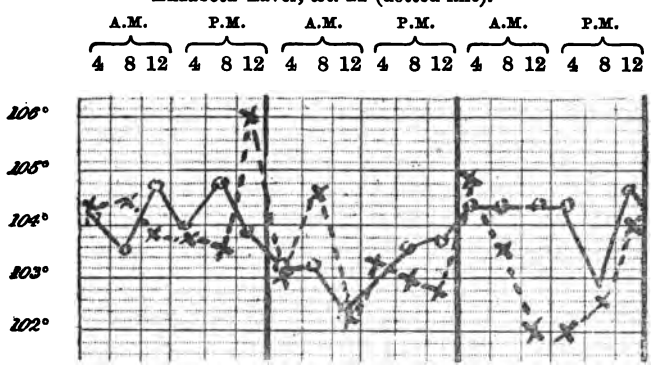
It is, as I believe, in its tendency to sudden and temporary remissions that we have one of the great characteristics of child's pyrexia. Yet I would not say as much on the testimony of pneumonia alone, inasmuch as there is reason to believe that its pyrexia is habitually interrupted even in later life, and that what we commonly regard as the critical descent of the sixth or seventh or eighth day is in fact only the last of several such events, differing only from the rest in its duration.

Let me leave the children for a moment in order to illustrate

this. Here are two examples of adult pneumonia side by side. The one, represented by the dotted line, was a woman of twenty-one, the other, represented by the continued line, was a man of twenty-seven. The three days shown in the chart correspond with the active stage of illness in both patients. One recovered, the other died; one was constantly delirious, the other had no delirium at all. Before I go further will any one tell me which is which?

Now, the dotted line shows the temperature of a melancholic, hysterical girl, and the case is singularly complete, inasmuch as the pneumonia was taken in the hospital owing to a definite exposure. The patient was under the care of Dr. Donkin, who kindly called my attention to her. The chart gives the readings of the second, third, and fourth days, crisis happening on the seventh with rapid recovery. And it shows two things: one that the pyrexia is very variable, the other that routine morning and evening readings would altogether underestimate it.

LOBAR PNEUMONIA—4-HOUR TEMPERATURE.
Robert Swinscoe, æt. 27 (continued line).
Elizabeth Laver, æt. 21 (dotted line).



On the first day of the pneumonia (not included in the chart) the girl's temperature fell from nearly 105°, its register at noon, to 101°, its register at midnight. On the second day its general day level, as the chart shows, was 104°, but at midnight of that day it shot up to 106°. There is thus within twenty-four hours a range of 5°, the oscillations not being

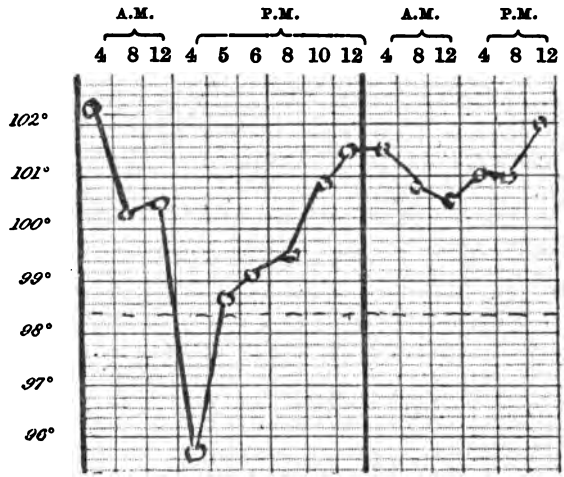
attended (as I could show did time serve) by any corresponding variation in the general symptoms. Similar variations occurred throughout, and until the time of crisis, which event (not included in the chart) was in fact the fourth abrupt temperature fall of her illness, differing only from the rest in descending lower and longer. Now, if in this example, again, only morning and evening readings had been taken, we should have missed the hyperpyrexia altogether and taken the temperature range at half a degree in place of five degrees.

Now take the man's case. The continued line represents temperature on the eighth, ninth, and tenth days of a pneumonia which killed him on the twelfth day. The respirations and pulse were throughout less frequent than in the girl, and delirium, absent in her case, was active and continuous with him. Observe that on the first day represented (*i.e.* the eighth of illness), at 8 in the evening, a delusive crisis sets in—delusive, that is, for those that count everything by temperature—and for sixteen hours there is a continuous fall, unaccompanied, I may say, by any favourable change in pulse, temperature, or consciousness. Then, at noon of the ninth day, begins *an ascent, which is continued right through the night and the small hours of morning.* Reaching 104·4° it keeps the body at that heat, as four observations show, for twelve hours, a desperate state of things which could only be discovered by frequent trials. The tenth day shows a brief remission, but on the eleventh the reading was 106°, and on the twelfth, rising to 106·8° in spite of frequent sponging, the man died.

Similar characters are repeated in this next chart—that of a child of six who died of pneumonia. I refer to it chiefly to remind you that no particular elevation of temperature is necessary in this disease. Here once more is a critical fall, the prelude not of recovery but of death, and the descent is through more than six degrees. But the highest reading is hardly above 102°, and on the day preceding death, with a pulse of 160 and respirations 64, it was only 101·6°.

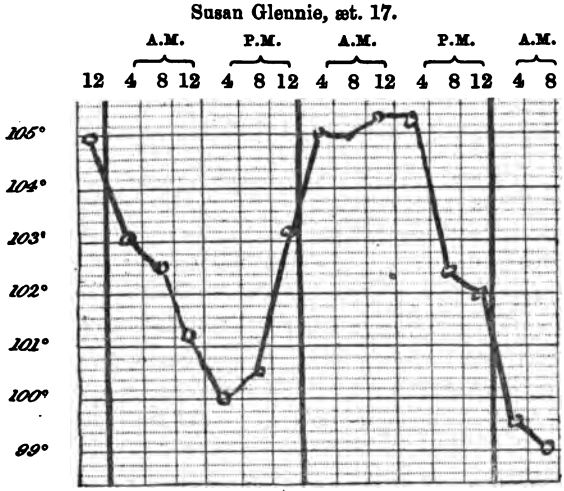
This alternate fall and rise of pyrexia, giving a V- or a W-shape to the tracing wherever the observations are at all adequate, is characteristic not only of pneumonia but of other

LOBAR PNEUMONIA 2-HOUR TEMPERATURE.
Harry Tillyer, æt. 6.



diseases allied to it. Here, for instance, is a temperature chart of quinsey in a girl of seventeen taken with remarkable assiduity during sixty-six hours, forty observations being made in that time.*

QUINSEY—HOURLY TEMPERATURE (ABSTRACT).
Susan Glennie, æt. 17.



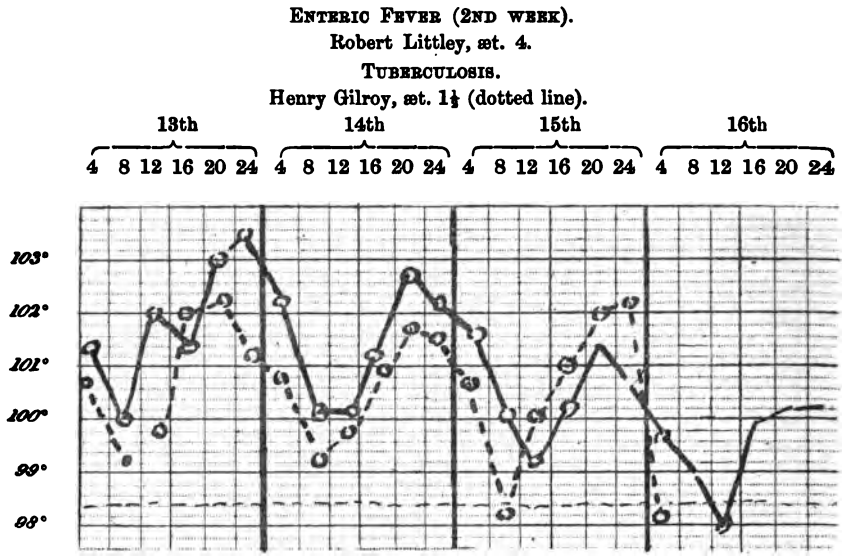
* For the saving of space this case is here represented on an abbreviated four-hour chart. This serves well enough if you will bear in mind that the joining

On admission at 8 in the evening the reading was 105·8. Taken hour by hour from midnight to the next midday it was in almost continuous and equable descent, falling to 101° or nearly five degrees, the girl meanwhile being very prostrate and apprehensive, but in no near danger. For the next six hours (noon till 6 p.m.) temperature was taken twice, and was still in descent, the reading at the latter hour being below 100°. Thus, in eighteen hours the total descent had been six degrees, yet with marvellous little change in the girl's state. Howbeit at 8 p.m. the temperature began to rise; and taken hourly, with two omissions, from that time to 4 a.m., it ascended as steadily as it had previously fallen, five degrees, namely, from 100° to 105°. At this point of 105°, or a little over, it remained very steadily for twelve hours (from 4 a.m. to 4 p.m.), a temperature, be it observed, very much resembling, except that it is nearly a degree higher, that of the man Swinscoe (p. 12), and which, in his case, was the herald of death. Then a second time it fell, just as it had fallen before, and by midnight (that is, in eight hours, each separately noted) had reached 102°. Two hours later it was 100°; at 6 a.m. on the normal line (98·4), and presently subnormal. And this second was the "critical" fall, inasmuch as it ushered in a convalescence which was short and uneventful like that of pneumonia. In a word, whether we take quinsey or pneumonia, or herpetic fever, and make frequent observations, it will be found very often, not always, that pyrexia is broken, and its final and so-called "critical" fall only one of a series.

That being so, let me seek some better illustration of my point as to the normal seeking tendency of child's pyrexia. Take enteric fever in its second week, the period when pyrexia keeps pretty constant but for a slight morning remission. That is so with the adult; it is not so, or, let me say, it is far less so, with the young child. Here are two examples taken out of many of enteric fever in children; the one aged five, the other four. In the first [not given here] the tempe-

lines correspond very nearly with *the actual observed path of the temperature*; they are not, as with a four-hour chart, merely hypothetical, nor, as with a morning and evening chart, purely imaginary, and only certain of being wrong. Those who content themselves with a morning and evening reading of temperature and no more, might as least have the grace to leave these as isolated observations, meagre yet true. Lines of junction in such cases cannot fail to be misleading.

rature touched the normal line on the afternoon of the eleventh day. In the second (that here reproduced) it approached it (continued line) within less than a degree on the fifteenth morning, and sank below it on the sixteenth morning.



The observation has this practical value. It is one of the puzzles of children's disease to distinguish between enteric fever and tuberculosis. They have much in common—aspect, abdominal distension, the general level of pyrexia. In this perplexity the characteristic typhoid temperature is appealed to. The heat of typhoid, it is urged, is a sustained heat, the heat of tuberculosis is more intermittent. The criterion is a precarious one. The dotted line in the above chart represents pyrexia in tuberculosis, yet it is not appreciably different from the tracing of enteric fever at what should be, in respect of temperature, the most characteristic stage of the latter.

This early descent of temperature in the young child's typhoid is not to be taken as an indication that the disease is reaching its term. Child's typhoid is in reality no shorter than our own. Remission of temperature at the end of the second week is by no means inconsistent with prolonged

prostration and tedious convalescence. It is a sign to be dealt with cautiously both in prognosis and in treatment.

And there is another point—a digression inasmuch as we are not here directly concerned with drugs—yet among the lessons to be drawn from the contemplation of temperature in young children, with its causeless and rapid changes, there is surely this, that they are the most unreliable subjects in the world for conclusions as to the action of so-called antipyretic remedies.

As time presses let me pass on now to some of the commoner diseases of young children. There are few more frequent than catarrhal pneumonia, and with its rapid transitions and grave sequelæ it is of very doubtful prognosis. How far does the thermometer help us here? It is true that the character of variability is reflected in a featureless way in its temperature register which is a series of uneven ups and downs without rule or order. The range of such temperature on the whole is very wide; the range of any one day may be small or great. From time to time the readings will sink considerably below the normal; and some serious and fatal cases hardly show pyrexia at all.

Take, for example, this child of three, where broncho-pneumonia followed bronchitis. A morning and evening tracing serves well enough to show the general character of its variations.* The temperature of one day, morning and evening, keeps near to 103°; of the next it is below 100°, and ranging between this and the normal; on the third day the range is between 104° (nearly) and 98°, and yet looking at the symptoms as a whole in this particular case (as in most others of the kind), one could not say from day to day whether the child was getting better or getting worse, nor infer anything from the temperature as to the rate of pulse or respiration. The rapid and erratic changes described serve, indeed, to exhibit in graphic form the wide difference between catarrhal and lobar pneumonia; the tracing may even be *sui generis*, but I make bold to affirm that habitually it gives to prognosis no help whatever.

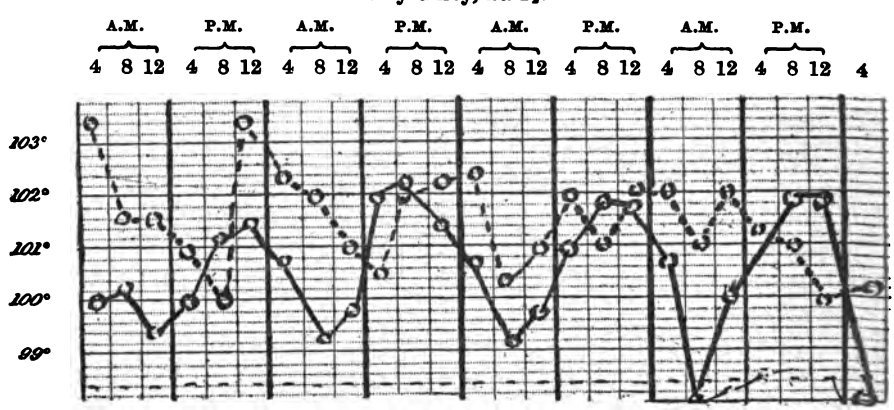
And yet it is just at this place that the value of temperature readings is put to crucial test. For in young children,

* The chart described above is here omitted.

whenever bronchial or pulmonary catarrh persists, and especially if with these there is vomiting, diarrhœa, or wasting —the question of tubercle arises. Does the temperature reading help us to answer it? After much search and with many examples, verified by post-mortem examination, I cannot be sure that it helps us at all. On the contrary, I think it can be shown that a meningitis or a broncho-pneumonia or a peritonitis, tubercular and non-tubercular, may have temperature tracings which are precisely similar.

Nevertheless, in cases of prolonged pyrexia, where the tubercular nature of the affection is already sufficiently indicated, its progress between better and worse is, I believe, fairly indicated by the course of the temperature. That is to say, that when the pattern of pyrexia is constant and repeated from day to day the patient is either stationary or improving; and when it is inconstant and varying from day to day he is getting worse. Here is a child of two years who lingered long, and after many ups and downs eventually died of tuberculosis. Observe that in the continued line the shape of tracing is preserved from day to day, and the child gained in weight. Some time later (as indicated by the dotted line) the shape gets disfigured, and particularly—a very significant sign yet

TUBERCULOSIS.
a. Gaining weight (continued line).
b. Losing weight (dotted line).
Henry Gilroy, æt. 1¾.



not always of one meaning—the early morning temperature is raised, and the child lost in weight. Temperatures may sometimes be distinguished as bad by this criterion; they are not high, they have no great range, but they vary much, and are highest at midnight and in the small hours.

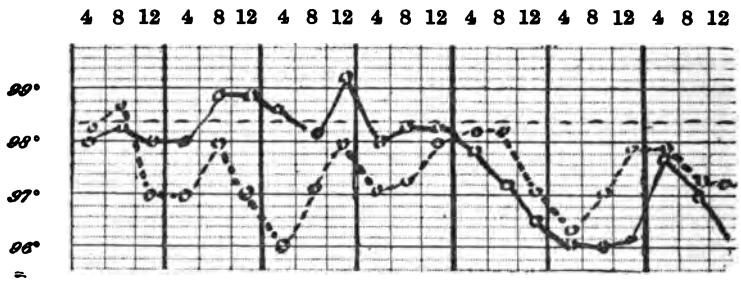
This description applies not only to tuberculosis, but to phthisis, and is true of adults as well as children. An irregular pyrexia gradually becomes equable, neither its range nor its average height altering. Presently the upper level sinks and the temperature of each day keeps closer and closer to the normal line. It is in this fashion, indeed, that all the varieties of pulmonary phthisis, except the most acute, sink from time to time temporarily into quiet. Yet the temperature *profile*, if I may so call it, by means of which improvement is indicated, cannot be delineated unless the points of observation are sufficient.

It is in meningitis and other nervous disease that we get, as is well known, the most ambiguous readings of all. Thus, for example, a temperature mostly subnormal, from time to time descending below registering mark, very uneven, yet in no respect distinguishable from what is seen in quite trivial disease, will be found sometimes in association with symptoms plainly indicative of cerebral inflammation. Presently, and without further warning, the temperature suddenly flies up to 107° or 108°, and the child dies. After weeks of such insignificant register as I have mentioned that mode of ascent and of death is far from uncommon. Taken as a whole such a tracing may be regarded as characteristic, but unfortunately that feature which makes it so, the final and fatal hyperpyrexia, comes too late to be of practical service.

A tendency to subnormal temperature is common in early childhood. That is all we can say; it is found in so many, and such various conditions of health and disease, that of itself it teaches nothing. It so happens that at the present moment I am in possession of two striking illustrations of this. For a long time a boy and a girl, aged two and three years respectively, have been under constant thermometric observation, the boy for five months, the girl for seven. The four-hour register of these children during three days and a half is here before you, and, as a longer chart cannot con-

veniently be exhibited, you must take my word for it, that during lengthened observation the difference between the two was not greater than is here depicted:

SUBNORMAL TEMPERATURES COMPARED.
Alfred Hitchcock, æt. 4 (continued line).
Charlotte Sanders, æt. 2 (dotted line)



As for the girl, all that can be said in reference to daily progress is this, that she was at her best when the temperature reached or exceeded the normal line (intercurrent attacks of broncho-pneumonia being laid out of the case). As for the boy, nothing can be said as regards any relationship between heat and health. His reading, like the girl's, is irregular and mostly subnormal, but its variations from day to day, from week to week, from month to month, surpass ordinary ingenuity to interpret. Again, I might ask you which is which; whether the boy's tracing or the girl's is to be preferred?

Now, it happens that the continued line represents meningitis where there has been repeated convulsion, extreme wasting, optic neuritis, frequent and prolonged vomiting. The boy is now in a stationary condition, and, although he has amended much from his worst, death is still threatening.* The dotted line represents the tracing of a girl who is fat and well. She has been kept with us for so long rather as a curiosity than a proper patient. For when excited or irritated she is subject to attacks of laryngismus, when the spasm is so extreme and prolonged that several times tracheotomy

* The boy here referred to eventually died, strumous tumour of the cerebellum being found in connection with the meningitis. The girl was well when last heard of.

has been suggested. This laryngeal spasm seems to depress the temperature a little, as I have said, but the intervals of freedom are so long, the occasion of the trouble so obviously emotional, and the child's general condition so entirely that of health, that it is hard to suppose that we have anything more than functional disturbance. In nutrition, innervation, digestion, circulation, no two patients could be more strongly contrasted than these; and yet through months of watching there is, so far as I can discover, no single character in the temperature of the one that is not also in the temperature of the other.

I have detained you too long, yet must end as I began by repeating a question not yet ready for answer. What does the thermometer teach us? In a general way no doubt, both for children and for adults, we can find a meaning in temperature tracings which is the outcome of a large experience, and may be largely, if not unreservedly, trusted. The pyrexia is good, *cæteris paribus*, which is lower in the morning than in the evening; which is equable or with but slight variations from day to day; which has a single rise and a single fall in the twenty-four hours; and whose lowest morning level approaches the normal line. The pyrexia is bad, *cæteris paribus*, which is highest in the morning; which ascends from evening through the small hours; which has two or more rises or falls for one day and night; which either maintains its level above 103° pretty equably for many hours together, or else is very variable from day to day, and conformable to no pattern. Add to this—what was early known, yet what of itself would suffice to save the thermometer from ever falling into neglect—that the temperature register gives the first warning of impending mischief after injuries and surgical operations; that it supplies our sole means of watching and of measuring hyperpyrexia; and that, in conjunction with other signs (by no means of itself), it helps to distinguish certain fevers and to estimate their progress and severity. These latter, however, are but occasional uses. The question remains, what is to be gained by the systematic employment of the thermometer for every disease and at all periods of life?

As yet, unfortunately, there is no material for reply, for there is no experience which is uniform and systematic. And

the wonder is that, during all these years of activity in this department of clinical study, no *method* of temperature use had been laid down for general adoption. There can be no precision in this matter and no confidence until some agreement is come to as to the meaning of terms and the mode of procedure.* What hour is "morning" and what "evening;" what precise number of observations are necessary for a tracing in this disease and in that; and at what times of the day and night should these be taken? At present we have a number of signals but no Code. When this has been issued, and has received some official stamp of authority (although that last requirement, perhaps, is not quite the most hopeful way of putting it), we can all set to work upon the same lines and with a common understanding. The final answer to the question, what is the good of the thermometer, will then be drawing near. It may be disappointing to our youthful hopes, disproportionate to the labour expended, but it will be at least decisive.

* Perhaps also the several regions of pyrexia might be further defined. Pyrexia begins say at 99·5°. Ascending six degrees we reach 105·5°, hyperpyrexia. But there is a middle region lying between this last and the upper limit of ordinary fever, between 105·5° and 103·5° or thereabouts, and it deserves a name, inasmuch as temperature maintaining that elevation has to be separately considered as being in itself a source of danger. In enteric fever, for example, or in typhus, many physicians believe that patients should be driven from this region of heat by force (that is to say, by bathing or sponging). They would not call it hyperpyrexia, for it has not the same peril, yet they would not interfere in the same active and direct way with a temperature not exceeding 103·5.°

THREE CASES

OF

SOLID ABDOMINAL TUMOUR.

By GEORGE COWELL.

THERE is no question of the general wisdom of the good old surgical rule of leaving untouched solid abdominal growths. The rule was based upon the uncertainty of a diagnosis of the nature of such a tumour, upon the probable shortness and vascularity of its attachments, and upon the increased risk attending the removal of a growth which, from the impossibility of diminishing its bulk, required an incision proportionate to its size. With every disposition to do honour to the sagacity of the great surgeons who laid down this rule, surgeons have of late years been carefully studying how far there might be exceptions to it; and already many tumours coming under this description have been successfully removed to the great comfort and relief of the patients in whom they occurred. It is only in accordance with the more perfect means of diagnosis and the improved methods of operation now established that this should be the case. Surgeons of course fully recognise not only the desirability of leaving untouched abdominal tumours of a malignant character, but also the possibility of some arrest of growth and diminution in size on the part of many of the tumours which are benign. But their duty of obedience to the above rule is necessarily relaxed when they see these growths progressively increasing, when they find that, although the health may not be seriously impaired, the only existing departure

in that respect is due to the mechanical effect of the tumour itself, to the interference with exercise, with nutrition, with function, which the presence of such a growth must entail; when they see, too, that the patient has become a burden to herself, and from sheer helplessness completely dependent upon those around her. In such extremity a patient has a right to the improved resources of surgery, if she demands them, after that she has received a due explanation of the risks which the necessary operation must entail.

The following cases are interesting in connection with this consideration. Two of them were fibrous, or, more strictly, myomatous, tumours of the ovary which had attained a sufficiently large size to render life intolerable. They were both successfully removed through large incisions. In the third, a tumour of a similar character, but perhaps more strictly fibrous, occurred in connection with the round ligament in the groin, and assumed an external position. Its removal was of course a more simple and less dangerous proceeding than that of the two intra-abdominal tumours; but it may be interesting and not uninstructive to describe this case with the others, and to consider that its extra-abdominal position was accidental.

1. Emma G—, æt. 44, was admitted into Harpur Ward, under the care of Dr. Allchin, on June 5th, 1884, with a large, hard, smooth abdominal tumour. She had been under treatment in the same ward at the beginning of 1883, when the tumour was much smaller. Dr. Allchin's case-book shows that the history then given was that early in 1881 she had noticed a lump of the size of a hen's egg in the right side of the abdomen a short distance above the groin. The tumour had been steadily increasing during the last six months, and for some weeks she had been subject to attacks of pain. The condition of her general health had fluctuated: more lately she had felt very weak, her appetite had been bad, and during the last three weeks she had decidedly lost flesh. Urine pale, sp. gr. 1018, acid, no albumen. The temperature was normal. The tumour extended across the lower part of the abdomen, and was larger transversely than vertically. It was freely movable within the abdomen,

and was in no way connected with the uterus, which was reported by Dr. Potter to be normal. The measurements of the abdomen then recorded were as follows:

Greatest circumference	.	36½ inches.
Umbilicus to ensiform cartilage	.	7½ ,,
,, to pubes	.	5¾ ,,
,, to left iliac spine	.	8 ,,
,, to right iliac spine	.	7 ,,

She had been married twelve years and had had five children. She had had a miscarriage seven years ago and no subsequent pregnancy. There was no history of tumour in the family. The patient was discharged in improved health, having gained flesh while in the hospital. She reported herself from time to time at the hospital, and the measurements showed a steady increase in the growth of the tumour. She was admitted again to Harpur Ward on October 25th, in consequence of a return of the weakness and languor. The report states that the abdomen is more distended, chiefly in the antero-posterior direction. There is no distinct bulging of the flanks. The measurement of the growth is eighteen inches transversely and ten and a half vertically.

The measurement of the abdomen is:

Circumference at the umbilicus	.	38 inches.
Umbilicus to ensiform cartilage	.	9¼ ,,
,, to pubes	.	5¾ ,,

The mass is still free from the pelvis and has extended upwards and transversely. The patient weighs eleven stone and eight ounces.

On her readmission on June 5th, 1884, the patient complained of a return of her previous symptoms. She was free from pain, but the appetite was again failing, and she felt languid and weak. The whole abdomen was distended with the growth.

The measurements were:

Maximum circumference at the umbilicus		38¾ inches.
Half way between the umbilicus and sternum		37½ ,,
Umbilicus to ensiform cartilage	. .	8 ,,
,, to pubes	. . .	6 ,,
,, to left iliac spine	. .	8⅛ ,,
,, to right iliac spine	. .	7½ ,,

There is some œdema of the legs, the bowels are constipated, but there is no difficulty in micturition. The urine is acid, sp. gr. 1035, no albumen. The catamenia have been regular and normal.

On the 10th I met Dr. Allchin and other members of the staff in consultation, and formed and expressed an opinion in favour of an operation, as the patient was beginning to suffer from the mechanical effects of the large growth. With so large a tumour life could not be much prolonged and was hardly worth having, whilst the chance of a favorable result to an operation was eminently good. The uterus was apparently quite free, and the history and growth of the tumour pointed to its being ovarian.

On the 13th Sir Spencer Wells most kindly saw the case, and acquiesced in the propriety and even desirability of an operation, but from the size of the abdomen and the extreme rarity of fibrous tumours of the ovary, inclined to the opinion that there were two tumours, a pedunculated fibrous tumour of the uterus, with a dermoid tumour of the ovary, as being more within the bounds of probability; at all events he gave the sanction of his large experience to the operation. The patient made up her mind to have the tumour removed, and an operation was performed on the following Friday, June 20th, 1884. She had been removed on the previous day to the extra ward set apart for abdominal sections.

The steam carbolic spray was used during the operation. I first made an incision in the middle line from below the umbilicus to within an inch or an inch and a half of the pubis, and on opening the peritoneal cavity a gush of ascitic fluid escaped and a large globular tumour was seen. I introduced my hand through the wound and found that, with the exception of the pedicle, there was only one small adhesion to omentum and that the uterus was normal and free. The left ovary also, contrary to expectation, was apparently free from disease, the right ovary being found to be the seat of the tumour. I at once extended the incision with strong scissors to within an inch of the ensiform cartilage, and then with a little difficulty the tumour was extracted. The intestines showed but little tendency to present through the wound and were easily restrained by large sponges. The adhesion to omentum was

first tied and divided, and the pedicle, which was short and thick, was transfixed with an aneurysm needle loaded with stout, carefully prepared silk. Some blood escaped from the pedicle when it was transfixed, but the two halves of the pedicle were rapidly and securely tied, the heavy tumour was removed, and, as a precaution against any recurrent hæmorrhage, the actual cautery was freely applied to the surface of the stump of the pedicle which as usual contained numerous vessels. All blood and fluid were carefully removed with sponges from the peritoneal cavity, and a large flat sponge placed within the wound over the intestines. Silver-wire sutures were placed in position to the number of fifteen. When all but the central sutures had been tied, the sponge was removed, the pedicle was brought up for a final inspection, and as there was no oozing the ends of the ligature were cut off and the pedicle allowed to fall back into the abdomen. The abdominal wound was then rapidly closed, a few superficial sutures of fine silver wire being placed where necessary in some of the intervals between the deep sutures. The wound was covered with a long, narrow strip of protective, with a layer of antiseptic gauze shavings and a large absorbent pad, kept in position by a carefully applied bandage.

The patient was carefully lifted from the table to bed. She suffered, of course, from the shock of the operation, and required small quantities of brandy and soda-water during the night, but rallied during the next day, and never afterwards had a bad symptom throughout her progress to recovery. After the first night her sole food for two days was a tablespoonful of milk and soda-water every hour. On the third and fourth day this was increased to an ounce of milk and half an ounce of soda-water every hour and a half. On the fifth and sixth days her diet was an ounce of strong beef-tea every three hours alternately with the above proportions of milk and soda-water. Her temperature was never above 101°; it usually ranged from 99° to 100°. She was allowed to relieve her thirst by sucking small pieces of ice. On the seventh day half an ounce of kreochyle was substituted for the beef-tea, which seemed to disagree. She continued to gain strength every day.

The dressings over the wound were not touched until the evening of the ninth day, when a little discharge of disagreeable odour was found escaping from their lower edge. The wound was found to be healed by first intention throughout its whole length, but at the lower part the skin on each side under the protective was excoriated and covered with a thin layer of offensive discharge. This was carefully cleansed, and the two lower sutures with three or four of the superficial ones were removed. The bowels had not acted since the operation, and an eight-ounce simple enema was prescribed. A few days later the remaining sutures were removed, and the healing of the wound rapidly became complete. The patient soon returned to the ordinary surgical ward, a proper abdominal support was provided for her, and she left the hospital well and fairly strong within five weeks of the operation. She came and showed herself at intervals, and for the last time some eighteen months after the operation, when she was looking well and strong and able to attend to her household affairs with ease and comfort.

The tumour weighed just over thirteen pounds. It was hard and firm, almost globular in shape, very smooth in front but somewhat lobulated behind, where two or three small cysts had developed. A section showed a firm solid tumour of the ovary, presenting some of the characteristics of a fibrous variety. The cut surface showed the general structure to be uniform and regular. There was a thinnish fibrous capsule. The dissected tumour is preserved in the museum in Caxton Street.

A remarkable point in the case was the fact that whilst the symptoms and the measurements pointed to disease of the left ovary, the tumour was really seated in the right, the left being quite free and of normal size.

Dr. Hebb's report as to its microscopical structure is as follows:—The tumour is a very interesting one. It is made up of largish, ovoid, indifferent cells, the margins of which are sharp and definite. There is a single punctiform nucleus in each. The cells are closely packed, the intercellular material being extremely delicate and fibrillar, and resembles rather an adhesive substance than a definite structure. There is no evidence in the parts examined of degeneration.

2. Mary A. B—, a thin, healthy woman, æt. 40, had been married at sixteen, and the mother of ten children, five of whom were living. The first child was born a year after the marriage, and the last four and a half years ago. She was admitted on July 30th, 1885, to Harpur Ward, under the care of Dr. Allchin, with an abdominal tumour. She gave the history of a fall some eighteen months before, followed a short time afterwards by pain "like a stitch," in the hypogastric and left iliac regions; the pain was absent when the patient was at rest. Two months later she first noticed in the same region a "lump," which has since steadily increased in size, growing more rapidly during the last eight months. The pain, however, did not increase, and was only felt on exertion. With the growth of the tumour has arisen the distressing symptom of retching, especially in the morning, a symptom which has been more or less present during the last seven months. The catamenia, which were previously quite regular and normal, began five months ago to be irregular, and for two months have ceased altogether. There are no signs of disease of the lungs or heart, in fact the patient's health has always been good. There is no history of cancer or tumours in her family.

On admission the condition of the patient was as follows: The surface of the abdomen is marked by numerous *lineæ albicantes*. The abdomen is more or less regularly distended, being perhaps more markedly prominent at its lower part and slightly more to the left than to the right. On palpation a large rounded but somewhat nodulated tumour is felt occupying the umbilical and hypogastric regions, and encroaching on the iliac and lumbar regions, more on the left side than on the right. The tumour appears to be freely movable. It is covered and surrounded by intestine, and there is good resonance on percussion in both flanks. No fluctuation can be found in the tumour, which is somewhat firmer and harder on the left side than on the right. On pressing the intestines against the tumours on the left side there is some tenderness, but there is none elsewhere. Some pain is felt in the left iliac region when the patient lies on her left side, but none when lying on the back. On examination the uterus appears to be free and movable. The

pulse is 80, the tongue furred, the appetite is fairly good, the bowels slightly constipated, and the urine is acid, with sp. gr. 1020, and free from albumen. There is no difficulty in micturition or defæcation.

Here was probably a dermoid tumour of the ovary, or from its hardness perhaps a growth similar to the one above described. In this case the persistence of the retching and the growth of the tumour, interfering as it did, by its size and weight, with the performance of house duties, led the patient as in the last case to seek relief by a surgical operation. She was transferred to the special surgical ward on the 8th of August, and all necessary preparations having been made, I proceeded to remove the tumour. It being ascertained through a small incision that there were no adhesions, and that the tumour was in no way connected with the uterus or other organs, the incision was enlarged, and the growth easily separated. A prepared silk ligature was used, and the stump of the pedicle, which was of moderate size, and not unduly short, was touched with the actual cautery. The tumour involved the right ovary, the left being healthy. The wound was closed exactly as in the former case, and healed as quickly without a bad symptom. The retching was troublesome for a few days but then subsided. The treatment as regards food was very similar. The patient left the hospital on September 18th. She has shown herself several times since, and continues in good health.

The tumour weighed eleven pounds thirteen ounces. It was a firm rounded mass, slightly nodulated laterally and behind, with one small yellowish cyst. Its appearance was very similar to that of the tumour in the previous case. On bisecting it, however, it was found to be made up of a more distinctly fibrous tissue, and within this mass a cavity filled with altered blood and broken down tissue. The thickness of the fibrous growth in the front part of the tumour was sufficient to prevent any distinct sign of fluctuation being felt.

Unfortunately this tumour was removed in the vacation, when Dr. Hebb was away, and the portions retained for microscopical examination cannot with certainty be identified.

3. Catherine B—, æt. 37, married, was sent to me by Dr. Maher with a large pendulous tumour, apparently fibrous, of the right groin. I advised her to come into the hospital with a view to having it removed and she was admitted into Holland Ward on March 25th last. She is a dark, healthy looking woman, well nourished, but stating that she had lately lost flesh. She has had no previous illness, and there is no history of any injury. She has been married seventeen years, but has had no children. She thinks, however, that she aborted once at three months. The catamenia commenced at the age of fourteen and has continued regularly. Her family history is that the father died at the age of sixty-seven of inflammation of the lungs, having been ill only three days. The mother is living and in good health, sixty-eight years of age. Her two brothers and one sister are also healthy and well. There is no history of tumours in the family.

The patient first noticed a swelling in the groin in September, 1878, seven and a half years ago. She states that she fancied that she strained herself in lifting a lamp down from a shelf, as she noticed the appearance of a swelling ten days subsequently. The lump has been gradually increasing in size ever since. She has sought advice several times, but has always refused to have the growth removed by operation, stating that she was sure that its removal would kill her.

The tumour is now very large, graphically described by Mr. Fremlin, the dresser, as being of the size and shape of a football. Two photographs of it were taken a day or two before the operation and are now in my possession. It is situated in the right groin, and from its weight and size has for a long time required a suspensory arrangement with purchase from the neck and shoulders. The existence of so large a tumour has of course greatly impeded locomotion, and of late has interfered with the performance of household duties. When the patient is lying down, the growth falls over the lower part of the abdomen as far as the umbilicus and the upper part of both thighs. There is a broad skin attachment almost corresponding with the inner two thirds of the fold of the thigh over Poupart's ligament, about the centre of which attachment a narrow solid peduncle can be felt between the layers of skin. The tumour is freely mov-

able except at this solid attachment. The skin of the right labium majus is expanded and forms part of the covering of the mass, the whole skin surface of which is non-adherent and covered with tortuous and largely dilated veins. The circumference of the tumour is twenty-seven inches, and across from one end of the skin attachment to the other eighteen inches and a half. There is a slight excoriation on the inner side where it has been rubbed by the material of the suspender. The surface is not quite smooth, as it is marked by slight linear depressions, suggesting a division of the tumour into lobes. The growth is firm and slightly elastic. There is no fluctuation and no resonance in any part, but complete dulness on percussion throughout. No pain has been felt in it and there is no tenderness, but the patient describes a "dragging sensation," probably due to the weight of the tumour.

There was no doubt of the fibrous and benign character of the tumour in this case. But in advising its removal it was impossible, from its position and from the history which the patient gave of its commencement, to ignore the possibility of the presence of a hernia in conjunction with the growth. More than one positive opinion in this direction was expressed. Although I did not share in this opinion I felt that it would be wise to exercise extreme caution in the operation.

On March 30th the patient was put under the influence of ether, and an india-rubber band, secured by Mr. Davy's tourniquet fastening, was placed around the base of the tumour in order to control the hæmorrhage. Two semilunar incisions were then made above and below the tumour some three or four inches from the base, meeting outwards and being joined together on the inner side by a third incision outside the distended skin of the labium. The flaps were dissected from the tumour, the attachment narrowed to its solid pedicle, and then cautiously divided. The patient became very faint during the operation, as there was considerable bleeding from the skin on both sides of the incisions, and several superficial arteries were tied.

The hæmorrhage was chiefly venous and ceased when the tumour was separated, and there was no bleeding from the

stump. It is possible that the use of the rubber band increased rather than reduced the hæmorrhage. The tumour was firmly attached to the inguinal canal, and it is probable that it was an outgrowth from the round ligament. The flaps were brought together over a drainage-tube, a pair of pads were firmly applied on either side of the wound, and the patient was carried back to bed.

The symptoms of shock completely passed off in twenty-four hours, and the patient made an uninterrupted recovery. Antiseptics were used until April 20th. The skin of the flaps did not contract as rapidly as was expected, and the redundancy of skin retarded the healing process by the turning in of part of the edges of the flaps, so that the patient was not discharged until May 14th. The wound was then nearly healed. Two months later it was found that the skin was contracting satisfactorily and there is no doubt that the advantage of leaving a sufficiency of the expanded skin will become more and more manifest.

The tumour after its removal weighed nine pounds and three quarters. Its bisection showed a dense fibrous mass quite free from cysts. I am indebted to Dr. Hebb, our excellent curator, for the following report:

The tumour is a myo-fibroma. It consists of unstriped muscular fibres and ordinary fibrous tissue in varying proportions. There is myxomatous (degenerative) tissue in some places. The tumour is everywhere abundantly supplied with blood-vessels of varying calibre.

FUNCTIONAL DISEASE.

By Dr. ALLCHIN.

"I have copiously enough spoken of the abuse of words in another place, and therefore shall upon this reflection, that the sciences are full of them, warn those that would conduct their understandings right, not to take any term, however authorised by the language of the schools, to stand for anything till they have an idea of it. A word may be of frequent use and great credit with several authors, and be by them made use of as if it stood for some real being; but yet, if he that reads cannot frame any distinct idea of that being, it is certainly to him an empty sound without a meaning, and he learns no more by all that is said of it, or attributed to it, than if it were affirmed only of that bare empty sound. They who would advance in knowledge, and not deceive and swell themselves with a little articulated air, should lay down this as a fundamental rule: not to take words for things, nor suppose that names in books signify real entities in nature, till they can frame clear and distinct ideas of those entities. . . . It is not without all reason supposed that there are many such empty terms to be found in some learned writers, to which they had recourse to etch out their systems when their understandings could not furnish them with conceptions from things. But yet I believe the supposing of some realities in nature answering those and the like words have much perplexed some, and quite misled others in the study of nature. . . . When men have any conceptions they can, if they are never too abstruse or abstracted, explain them and the terms they use for them. For our conceptions being nothing but ideas, which are all made up of simple ones: if they cannot give us the ideas their words stand for, it is plain they have none. To what purpose can it be, to hunt after his conceptions, who has none, or none distinct? He that knew not what he himself meant by a learned term cannot make us know anything by his use of it, let us beat our heads about it never so long. Whether we are able to comprehend all the operations of nature and the manners of them it matters not to inquire; but this is certain, that we can comprehend no more of them than we can distinctly conceive, therefore to obtrude terms when we have no distinct conceptions, as if they did contain or rather conceal something, is but an artifice of learned vanity to cover a defect in an hypothesis or our understandings. Words are not made to conceal, but to declare and show something; when they are by those who pretend to instruct otherwise used, they conceal indeed something, but that that they conceal is nothing but the ignorance, error, or sophistry of the talker, for there is, in truth, nothing else under them."—Locke, *Of the Conduct of the Understanding.*

Gentlemen,*—The aim of your studies here in the wards is to learn how most successfully to treat disease. To the rational accomplishment of this end you must first ascertain, as completely as you can, the nature of the disease that is before you, and fully to do this you must investigate the causes which have led to the departure from health and the

* The substance of the following paper was originally delivered in the form of a lecture.

various signs and symptoms by which the abnormal state is manifested. In this consists, as you are aware, the making of a diagnosis. Great, no doubt, as are the advances that have taken place in recent years, and that may be said to be made almost daily in the various stages of inquiry, it nevertheless remains that neither one can claim any approach to perfection, with the result that our art and our practice are correspondingly incomplete and speculative. Until an absolute standard of health can be formulated it must necessarily be impossible to define the limits of disease, and without a thorough knowledge of the influence of the environment on the body, the ætiology of disease must be correspondingly deficient. It may be reckoned fortunate that the advance towards perfection—if it be ever attainable—in our knowledge of disease does not always require a previous acquaintance with what may be assumed as health, since much of our knowledge of normal structure and function has come to be acquired by means of those natural experiments which disease affords. In the recognition of the cause of a malady are to be found a great step towards the true appreciation of its nature and the most pregnant suggestions for its treatment. Supplementary to this investigation of causation, do we note, with the most painstaking accuracy, those evidences of abnormal living action which constitute the symptoms of illness, aided, however, by such helps to our senses as thermometer, stethoscope, microscope, and the like. The art of diagnosis may be said to consist in endeavouring to ascertain "*what* is wrong" from the observation of evidences of the abnormal; to get behind, in short, the symptoms of disease to the structural imperfections upon which they depend, since it is to such imperfections that all treatment must be directed. But whilst such should be our endeavour, we must candidly admit that too often the causal material change of some abnormal symptom is quite beyond our present grasp; our knowledge of the normal is deficient, or our means of detection of the essential nature of what is before us are too imperfect to permit of our recognising *what* is actually at fault. Not infrequently do we meet with cases, wherein we are in doubt even as to what organ or what tissue it is that is diseased, though the patient may be

ill even to death, and post-mortem examination now and then fails to clear up our ignorance. But to consider such cases in other ways than those in which we regard maladies where the lesion is obvious, or to use concerning them a phraseology ambiguous and misleading, is to my mind quite unjustifiable. It is customary to speak of "such disorder as is not preceded by any structural change detectable by our present means of research, and further, because in many cases such disorder tends to recovery, in all probability not often followed by any permanent alteration,"* as "functional," in contrast to those maladies where the lesion is obvious and recognisable, termed "organic." Although such language is sanctioned by high authority and constant use, I cannot but regard it as mischievous and unscientific; mischievous, as obviously suggesting an idea which its employers even for the most part repudiate, and unscientific, as being opposed to the universal teachings of observation and experience. To justify such an opinion, respectfully but none the less strictly maintained, is the object of my present remarks.

There can, I think, be but little doubt that among the most important, if not altogether the most important, advances in knowledge that have been made within recent years have been the conception of the cosmos in terms of matter and force, the mutual dependence of these, their individual indestructibility with the doctrine of the correlation of the physical forces or conservation of energy. "The two fundamental conceptions of matter and motion will be found sufficient to explain physical phenomena," says Grove.† Clearly the next step was to recognise the relationship existent between these conceptions, and this was done when we were able to say that force is an expression of the condition of matter, and that an alteration in the state or condition of matter implies a change in the manifestation of force and *vice versâ*. Beyond that we do not profitably seek to inquire; with the essence or the cause of these two concepts, true science has at present no concern.

* "Suggestions as to the Ætiology of some so-called System-diseases of the Spinal Cord," by Dr. Donkin ('Brain,' Jan., 1883).

† Address at British Association for Advancement of Science, 1866.

To include within the scope of those conceptions the phenomena presented by living things was a separate effort, and may be said to have fully completed what has well been described as "one of the most sublime generalisations of modern times."* On this point let me quote from Dr. Burdon Sanderson's address to the British Association for the Advancement of Science (1881): "It would give a true idea of the nature of the great advance which took place about the middle of this century if I were to define it as the epoch of the death of vitalism. Before that time even the greatest of biologists recognised that the knowledge they possessed both of vital and physical phenomena was insufficient to refer both to a common measure. The method therefore was to study the processes of life in relation to each other only. Since that time it has become fundamental in our science not to regard any vital process as understood at all unless it can be brought into relation with physical standards, and the methods of physiology have been based exclusively on this principle. The most efficient of the causes which had conduced to this change was the progress which had been made in physics and chemistry, and particularly those investigations which led to the establishment of the doctrine of the conservation of energy. In the application of this great principle to physiology the man to whom we are most indebted is J. R. Mayer† . . . . who, at a time when the notion of the correlation of different modes of motion was as yet very unfamiliar to the physicist, boldly applied it to the phenomena of animal life, and thus reunited physiology with natural philosophy, from which it had been rightly, because unavoidably, severed by the vitalists of an earlier period." Notwithstanding, however, that the alliance in methods of investigation and in mode of regarding the phenomena of the living and non-living world, and the recognition of their fundamental relation in nature had been thus authoritatively indicated, there have not been wanting among biologists (more particularly those of them whose attention has been specially

* 'Energy in Nature,' by W. L. Carpenter, B.Sc., 1883.

† 'Treatise on the Relation between Organic Motion and the Exchange of Material,' 1845.

directed to pathology) some who have hesitated at accepting these conclusions, at least in their speech and writings, and this too when they have been most steadfast adherents of the prevailing notions of modern science, and most strenuous opponents of the old doctrine of vitalism. There would seem to have been a disposition to shirk, or a scarce admitted reluctance to accept, the logical consequence of their position. And it would appear that the survival of the phrase "functional disease" is a relic of this half heartedness, of this doubting attitude which its maintainers claim to be "scientific."

Consistently, then, with the principles laid down, we are bound to consider the varied manifestations of vitality exactly as we should investigate a problem in physics or chemistry; investigating them in the same way, and acting on the same assumption that they are but expressions of energy liberated by matter under certain conditions. Such expressions of energy we are in the habit of calling "functions," and the matter through which they are manifested we speak of as tissues and organs. Associated with a peculiar form of matter, of an as yet unascertained chemical composition, are invariably found the characteristic properties which collectively we term life, and certain arrangements of this matter along with variable kinds of non-living material make up the *structure* of the organs and living organisms. The word "organic," which is really in its present significance synonymous with structural, appertains to the arrangement of the parts or organs of living beings, and was more applicable in former days when a definite visible structure was deemed needful for the exhibition of vitality. It may be regarded as the complement to functional, referring as it does to the thing that does, the agent, the organ itself from its anatomical aspect, rather than to the thing done, the action, the function from its physiological side. Adapting these words to our present day conceptions we say that function is the outcome of structure, that given a certain structure under suitable conditions of environment there will follow certain functional manifestations, and that a variation in one implies an alteration of the other. This is the fundamental notion underlying our idea of health and

disease as correlative states, and as health is the functional expression of a certain structure (under healthy or normal surroundings) so disease is perverted function due to some alteration of structure outside those admittedly wide and at present undefined limits which we assume to be healthy. All living action, whether healthy or diseased, is functional, and "functional disease" is as redundant an expression as "functional health" would be, the very fact of vitality of necessity implies the term; I say of necessity, because were it not so the hypothesis of the relationship of matter to force would be only partially applicable, and the prevalent notions of the cosmos must be modified to accommodate this vague and meaningless phrase.

It is not, however, the vagueness or even the redundancy of the expression that leads me to deprecate its use, on such grounds trouble were wasted in contesting it, rather do I advise you to avoid it as actively mischievous by implication and as tending to mislead you in your studies.

In a recent work on 'Chorea and Whooping-cough,' by my colleague Dr. Sturges, is "an endeavour to show that the term is both necessary and expressive," an examination of which attempt will serve to illustrate my position. "If the animal functions were performed always after one pattern," says Dr. Sturges, "every deviation from which could be certainly recognised by a corresponding tissue-change, the definition of disease would be easy and precise. In the actual circumstances, however, the line which separates it from disordered function is in great measure arbitrary. Variations in function, which are temporary and occasional, depend upon material causes no less than do the several phases of what we choose to call disease; and if any one should say that this latter term becomes appropriate so soon as the structure-change becomes appreciable by the senses, such a description implies that the point of division is continually shifting, as the means and opportunities of observation multiply. Thus functional disease signifies no more than the imperfection of our search for the material basis of bodily arrangement; it occupies that interval, which it is the main object of pathology to abridge, between the earliest recognition of disorder in act and the earliest

discovery of structural change on which it depends." Now be it observed that in these remarks, which I have quoted verbatim from one who is a staunch upholder of the fitness of the expression, we have the following points: that variations in function to whatever extent depend on material causes (*i. e.* structural change); but that whilst in some cases these changes are perceptible in others they are not, and to those variations of function whose material causation is *not yet* discovered, the term "functional disease" may be applied. Did, however, the defenders of the phrase stop here I should not be disposed to take much exception, though whilst perhaps admitting the provisional desirability of having some designation for such cases, might still think that a more suitable one might be chosen, one less apt to imply by inference that there is such a thing as disease of function apart from disease of structure.

But it is clear that "functional disease" is not to denote a merely provisional group of perverted actions, the structural changes of which are not yet discovered, a group which is ever narrowing its limits as investigation discovers the material alterations, a term of convenience, in short, as we might have imagined from the words I have quoted; for we read a little further on: "It is not every disorder, of which the material element is unknown, that can rightly be admitted even provisionally into that class. The diagnosis of functional disease as such is not always easy. It requires, in fact, an intimate knowledge both of the limits of function and of the causes on which its variations depend. No disorder can properly be called functional unless it fall within these limits, and unless the causes which are competent to produce its particular phenomena are known to have been actually in operation. . . . So long as the organism remains obedient to its excitant, exhibiting no more than that deviation from its usual method which is commonly recognised as its proper response to the extra strain to which it may be subjected so long, we have that kind of disturbance (of whatever degree) which the term 'functional' accurately describes."

Surely no one believes that the activities of the neuro-muscular apparatus, whether they be represented by the

voluntary or reflex movements of health, the "fidgetiness," as Dr. Sturges would call it, of chorea, or the tetanic spasms of strychnine-poisoning, are any or all *unaccompanied* by alterations in the protoplasmic tissues concerned. To a slight extent even the microscope renders the changes visible, whilst the chemical decompositions, and the important fact that the tissues will only perform their functions for a brief time and require rest for repair, are abundant evidences that the nerve-cells and muscle-fibres are not what they were previous to manifesting their irritability and contractility. And if no longer the same, in what way can the difference be but in their structure, however minute the change may be? The same may be said for secreting cells, the protoplasm of which obviously changes with the states of activity and repose. No one hesitates to associate in the relationship of cause and effect the imperfect action of a degenerated nerve centre or muscle with the structural lesion that the microscope lays bare, and that because the muscle-fibre is replaced by fat therefore it does not contract as it should, or, as we are accustomed to find it does, when a certain structure of fibre exists which we call healthy. It may be, and indeed is, difficult, if not impossible, I admit, to define health, or to say at what point healthy function passes into disease, or to draw an exact line between normal and morbid structure, but it is not rational to meet such a difficulty by talking of disease as having no causal structural change. Even healthy activity of our bodies is the outcome of tissue-change, and if vicious action be not due to morbid change, what, it may be asked, is its immediate causation? To call it "functional" is, I maintain, a misapplication of terms, for the word relates to the thing done, the act, the process, and not the agent, the organ, or the tissue.

That I have no way misstated the case will, I think, be apparent from the following:—After mentioning several conditions of body classified as functional disease, such as the reflex spasms of infancy, hysterical emotions, and "the restricted muscular obedience of advancing life," Dr. Sturges says, "such disorders are not to be regarded as mere accidents of life; they are its common incidents due to inherent defect; yet not the defect of disease in the sense of struc-

tural injury, but of unfinished development, or of that natural imperfection of being which is our proper inheritance." If unfinished development be not structural imperfection, I do not understand the meaning of words; whilst the charming vagueness of the second-named cause cannot obscure the fact that imperfection of being, if it mean anything at all, means incompleteness of bodily structure.

Or, again, Dr. Sturges asks elsewhere,* "What degree of disorder is to justify the anatomist in making search for its material expression?" Surely the putting of such a question in such terms would seem to imply that in the mind of the questioner there is a point at which disease ceases to be associated with structure, and that this would seem to be so appears still stronger from the next sentence: "No one will answer any degree of it whatever, since that would be to include the whole of mankind, and would involve the absurdity of making disease a universal possession." Whether it be such an absurdity is perhaps an open question, but I would again ask, is there not here a confusion of idea, a confounding of the admitted difficulty of defining health (structural or functional) with the wholly different question, viz. the direct dependence of function on structure?

Twenty years ago Dr. Reynolds wrote, in the Introduction to his 'System of Medicine:' "in the present state of science the *onus probandi* lies with those who assert the constant presence of structural with functional change, and we affirm that those who make the assertion have never proved their point." Doubtless those who at the present day assert the same would find it difficult to prove their point. In the existing state of knowledge it is incapable of proof, but it does claim to be an assertion in harmony with the fundamental principle of our science, which regards no vital process as "understood at all unless it can be brought into relation with physical standards," and "refers both vital and physical phenomena to a common measure." And further, whilst thus placing the question on the same basis as the problems of chemistry and physics, it justifies the retort to those who ask for proof, if disease be not *always* due to some structural change, to what other cause, or kind of cause, can it be

* 'On Chorea,' by O. Sturges, M.D., 1881.

ascribed? It would only be fair, however, to say that the twenty years interval that has elapsed since Dr. Reynolds located the burden of proof has been sufficient very materially to dispose of much of the three following grounds upon which he justified the use of the term functional disease. That post-mortem we may find evidence of structural disease which gave rise to no symptoms during life, or that many morbid manifestations of function have no recognisable material causation, is only another way of saying that our knowledge is very imperfect and that our powers of observation are very limited. But yet I have reason to think we have discovered a good deal that was quite undreamed of then, and have still certainly associated many symptoms of disease with tissue-changes, unsuspected at that time.

Dr. Reynolds' second reason had best be taken from his own words: "Function is related to structure, as being the wear and tear of the tissues, in other words, the outcome of their life. The essential conditions of the functional activity of a living organ are the nutritive molecular changes it is undergoing, and upon the interstitial movements of repair and waste depend the functional operations. But we should be wrong to confound functions with the nutritive changes which constitute not the function itself, but the condition of its exercise; *e.g.* it is the function of a muscle to contract, and the organ in exercising its function undergoes certain nutritive changes, but these molecular changes are not the functions of the organs, but the condition essential to their performance. The words functional disease denotes such changes as have no recognised morbid anatomy, but such as depend upon corresponding changes in the final processes of nutrition." There would not be many physiologists to-day, I apprehend, who would draw a distinction between the functions of a living tissue and the nutritive molecular changes it undergoes in the sense that would seem to be indicated here. But even did they so, there would still remain the fact that when the conditions of the exercise of a function are altered the function itself is perverted, such conditions being the aforesaid nutritive molecular changes, which, as we shall hereafter see, are but a phase of structure.

Thirdly, to deny a structural causation for a malady

because it "consists only in an exaggeration or diminution of the organ of activity by which certain organs perform their functions," would lead to denying that the normal activities of organs and tissues are the expression of changes, however minute in their component materials.

The plea of convenience so frequently urged on behalf of the use of this phrase I am discussing finds expression in most or all of the authorities I have quoted, and is one upon which, I am of opinion, far too much stress has been laid. The late Dr. Moxon, after defining functional disease as "disease without coarse and mechanical change, not disease without any corresponding structural variation, for that is impossible," proceeds to affirm that "there is a practical gain in allowing the term, for the changes of structure may be so minute or remote, and when functions vary in this way without plainly evident structural change, then generally the disorders produced are of a temporary and less significant kind . . . and may be expected soon to recover; by a structural disease we understand one that will resist our medical efforts, and it is from this point of view that the division is practically convenient."* Yet Dr. Moxon, in the same paragraph as the foregoing, recognises how many are the exceptions to such a definition of functional disease, and himself suggests tetanus and epilepsy as maladies the structural causations of which are (or were sixteen years ago) most obscure, whilst recovery from such is oftener to be hoped for than reasonably expected. The fact is, and the position cannot be escaped from, that all disease is functional, whilst how far the underlying structural changes are recognisable is a mere question of degree, gradually to be overcome as means of observation improve. The changes are none the less real; and the designation of the evidences of those not yet seen by a phrase with a conventional meaning tends to land the user in such difficulties and contradictions as I have above indicated. "There is nothing," said Professor Goodsir, "which has more retarded science and philosophy and the kindred subjects on which human reason has been employed than the introduction of terms with conventional meanings. Men come at last to

* "Lectures on Pathology," 'Medical Times and Gazette,' July, 2nd, 1870.

defend the terms as if they were the truth, and to mistake an artificial shadow for the substance required."* I am very far from seeing the need, or, indeed, the practical convenience, of having a special term for this provisional group of maladies which is constantly growing smaller. Such diseases are not to be regarded as essentially distinct in their causation, their nature, their detection, their course, or their treatment, unless indeed we refuse to search for the material expression of disorder at a certain point, as Dr. Sturges would have us do, when it seems to me we should have to fall back upon a "perverted vitalism" to account for such conditions. The use of the term even by those who hold it to be "impossible for disease to exist without structural variation" is apt to be misleading, and to suggest an interpretation which they would be the last to admit. For those who wait like Dr. Reynolds for proof of the structural lesion in all cases, and who feel the necessity for some appellation which shall denote those maladies not yet associated with a demonstrable tissue-change, the term "functional disease" may be permitted, especially as there is an underlying idea, more or less definitely expressed by them, that there is such a thing as disease without structural imperfection. But in that case it behoves such pathologists clearly to say upon what those disorders do depend, and to formulate the conception of the liberation of energy apart from matter.

The relationship of function to structure, which in abnormal conditions I am here discussing, has, I venture to think with all deference, been obscured rather than explained by the enunciation of the dictum that "function precedes structure." Mr. Herbert Spencer† observes, "That function takes precedence of structure seems almost implied in the definition of life. If life consists of inner actions so adjusted as to balance outer actions, if the actions are the substance of life while the adjustment of them constitutes its form, then may we not say that the action to be formed must come before that which forms them, that the continuous change which is the basis of function must come

* 'Address on Progress of Anatomy,' 1846.

† 'Principles of Biology,' vol. i, p. 167, 1864.

before the structure which brings function into shape? Or, again, since throughout all phases of life up to the highest every advance is the effecting of some better adjustment of inner to outer actions, and since the accompanying new complexity of structure is simply a means of making possible this better adjustment, it follows that function is from beginning to end the determining cause of structure. Not only is this manifestly true when the modification of structure arises by reaction from modification of function, but it is also true when a modification of structure otherwise produced apparently initiates a modification of function. For it is only when such so-called spontaneous modification of structure subserves some advantageous action that it is permanently established; if it is a structural modification that happens to facilitate the vital activities 'natural selection' retains and increases it, but if not it disappears." It is apart from my present purpose to discuss this view of the subject and the inference that has been drawn therefrom, that "the properties of a tissue are more delicate tests of its nature than the structure,"* except so far as to point out that if the manifestation of function precedes an alteration in structure then clearly such manifestation cannot be the result of such change, and we are entitled to ask upon what does it depend? And I frankly confess to being unable to imagine an answer that does not involve the conception of energy being developed apart from matter. Hinton,† in one of his thoughtful works, pointed out how "the dependence of the active powers of the body upon the decomposition of its substance was rendered difficult to recognise by the order in which the facts are presented to us. . . . . The animal body came before men's senses as gifted with a power of acting; this was, to their thoughts, its nature —a property of life. They grew familiar with this 'property' and ceased to demand a cause or explanation of it, and long before it was discovered that with every such exhibition of power there was connected a change in its composition. Only after long study and thorough knowledge of many laws was this discovery made. How, then, should they have done

* 'Lancet,' 1883, vol. i, p. 1011.

† 'Life in Nature,' by James Hinton, 2nd edit., 1875.

otherwise than put the effect before the cause, and say, 'the animal body has an active power, and as a consequence of every exertion of that power a part of its substance becomes decomposed?' The powers of nature are studied by us in an inverse order; we see effect before we discover causes. And such is the deadening effect of familiarity upon our minds that the seen effect has often ceased to excite our wonder, or stimulate our demand to know a cause, before the discovery of that cause is made."

Whether this be the explanation I cannot say, but the idea that functional succeeds structural change not unfrequently finds expression either in the form of a bare statement or as underlying such questions as the following, which were not long since suggested for discussion at one of the Societies:* "Is the organic degeneration of the lateral columns of the cord, so frequently associated with spastic symptoms, essential for their production; or may they be accounted for by functional derangement of the same regions, or of the psychical or motor centres? May primary functional disorder eventually lead to secondary organic degeneration?" The contrast between the terms "functional" and "organic" in these questions can leave no doubt but that in the mind of their framer "functional disorder" does occur independently of "organic degeneration," which is one form of structural change. Again I would ask, how can such a view be reconciled with our fundamental conceptions of matter and force and our renunciation of the idea of a vital principal independent of tissue-change?

The various authorities I have quoted differ among themselves very considerably as to the exact significance they would attach to the term; some distinctly repudiating all idea of the possibility of functional derangement without corresponding tissue-change, but employing the expression simply and only for diseased states the anatomical substratum of which is not yet known, and suggesting that it is "practically convenient from a prognostic point of view" (Moxon). Others, again, protest much the same, but soon betray in the lan-

* Medical Society of London, March, 1886. The questions were not, I believe, actually discussed, and we still remain unenlightened upon the interesting phenomena to which they refer.

guage they employ a tendency towards the belief that there is a point at which the "anatomist is not justified in searching for the material expressions of disorder" (Sturges). Whilst others wait for proof, discriminating meanwhile between tissue nutrition and functional manifestation, though making the former the "condition of exercise" of the latter (Reynolds). There remains but one more standpoint to occupy, and that is, a positive denial of the very existence of structural changes as the cause of some morbid states. To a certain extent this position is taken by those who conceive of functional manifestation preceding structural change, but the assertion is categorically made by a recent writer,* who says of functional diseases that they are "characterised by the absence of very definite structural alteration to account for the abnormal symptoms, and not only are such changes impossible to discover, but the nature, progress, and termination of the complaint seem to indicate that they are not in existence. In short, the only evidence of any departure from health is the development of the varied abnormalities of innervation which appear to have arisen independently of any demonstrable organic lesion. There is no exact line of demarcation (between organic and functional diseases), the one blending with the other, and both very frequently associated in the same patient. The exact definition of functional disease is thus impossible, and a distinction between the disorders belonging to this class and other affections is an arbitrary one without definite limits, which, as our knowledge advances, will probably require modification. The former may, however, for all practical purposes be generally described as morbid states, usually apyretic, in which there is an exclusive, or at least a predominant modification, of the functions of the nervous system, presenting the double peculiarity of being produced in the absence of any appreciable lesion, and of not by itself necessarily inducing profound or persistent structural change." It does not seem very clear why, if in some diseases no structural alterations actually exist, whilst in others the lesion is obvious, that there should be such a difficulty in drawing a line of distinction between these groups of maladies. As a matter of fact, the difficulty

* 'Medical Times and Gazette,' Dec. 8th, 1883, p. 658.

is most considerable, but is not that rather to be regarded as evidence of a mere difference in degree of the causal conditions than as consistent with such a very definite opposite as lesion and no lesion? Nor does the making of such a point of the "nervous" aspect of functional disease help the question much. Nervous diseases, we know, are now the fashion, and the extreme difficulty of their study and great complexity of their manifestations may temporarily pardon, though they cannot justify, an exuberance of language and vagueness of thought in respect to them, which a little more positive knowledge will doubtless help to correct. To those who, like myself, would insist on a very real tissue-change as the cause of every exhibition of living energy, healthy or diseased, it is merely shifting the ground to the nervous centres, abnormal changes in which produce impaired innervation which shows itself in the unhealthy performance of the functions of certain parts. Physiology teaches that the nervous system exerts a distinct trophic influence over the tissues; if that be perverted the tissue metabolism will depart from the normal standard, and the functions of the organ be improperly performed, just as surely as if the tissue itself were primarily injured. In both cases a structural change is the causal phenomena, though the site of it be different. In the same article, a few sentences further on, occurs the following, which I add as introducing the position which I myself hold in respect to the point at issue.

"An ordinary act," continues the writer, "motion or sensation, is not accompanied by any visible alteration of structure, although we may hypothetically assume that it is represented by molecular changes in the nerve tissues beyond our powers of appreciation. Should such acts, motions, or sensations become irregular, as in the transport of rage, the tremor of fear, or the palsy of shock, we may conceive there would be corresponding molecular change, but we could not hope to demonstrate such a condition. Finally, should these modifications become permanent, as in chorea, old age, or certain forms of paralysis, we call the results abnormal symptoms, but we do not and cannot expect to demonstrate the minute alterations representative of them. It is to these symptoms, consisting of a perversion of natural activity as a

result of molecular movement, which we cannot anatomically display, that we give the name functional, in distinction from those which are obviously the result of new formation or degeneration process." Herein lies, as it appears to me, the justification of the remark I made that the phrase "functional disease" is an evidence of the reluctance felt by its users to accept the logical consequences of the fundamental principle that "no vital process is to be understood at all unless it can be brought into relation with physical standards." So long as the structural arrangement, *e.g.* the bones, joints, muscles, &c., of the leg, is clear to the naked eye, the power of walking is admittedly dependent on the mechanical arrangement of the parts as clearly as the going of a watch is due to the particular dispositions of its wheels, axles, spring, &c.; and it is readily admitted that a broken tibia would be a structural cause for an impaired power of walking. The dependence of the healthy performance of the functions of the limb on its structural integrity, or of the disordered action on the damaged structure would be admitted without question. The same principle leads to the recognition of the fact that a degenerated tissue which may require a microscope for its detection will not do the work of a healthy one, and that for the reason that it is not of the same structure; *because* the muscular tissue of the heart is more or less replaced by fat, *therefore* the cardiac contractions are not of the healthy character; no one questions the relation of the effect to the cause. Now, I maintain we cannot stop here. Why are we arbitrarily to stop at the limits our microscope prescribes? "Every molecule has a definite structure; it not only consists of a definite kind and definite number of atoms, but these atoms are arranged or grouped together in a definite order . . . . and we have reached as much certainty in regard to the grouping of the atoms in the molecules as we have in regard to any phenomenon wholly supersensible."* It may be urged that this idea of molecular structure is but an hypothesis, and one incapable of proof; but it should be remembered that as a development of the atomic theory it forms an integral part of the all but universally accepted assumption upon which all physical and chemical knowledge rests. To

* 'The New Chemistry,' by T. P. Cooke, 3rd edition, 1876.

me, I confess, it seems that the molecular structure of the constituent proximate principles of the tissue is but the final stage in anatomical investigation which starts from the body in the dissecting-room; and at no point in the gradual passage from the clearly visible to this at present intangible is there anything but difference in degree. The only reasonable explanation of the marked difference in properties possessed by isomeric compounds depends upon this theory; and our present-day conception of the nature of the various forms of energy are based upon this assumption of certain definite, though unknown, arrangements of the atoms and molecules of the materal through which the energy in question is manifested. The doctrine of the correlation of the forces proceeds on the same assumption. And consistently with our principles we must regard the contractility of a muscle and the irritability of a nerve as equally the expression of certain molecular arrangements or structure of the respective tissue. Thus will be apparent my objection to the term functional disease as obscuring the structural nature of the underlying change. Nothing, as I have shown, can be reasonably urged on the ground of convenience for its retention, but on the contrary, by diverting attention from what really should be the line of inquiry only makes confusion. There are, however, very practical grounds for condemning the phrase with its inevitable suggestion. The important subject of pharmacology, which deals with the effect of drugs upon the tissues of the body, is mainly founded upon the interactions taking place between the constituent atoms of the drugs employed and of the tissues experimented upon; and the connection between chemical constitution and physiological action is gradually becoming formulated. I might pursue this aspect of the question much further, but I have said enough to justify my asking you to avoid the use of a phrase which is a remnant of a long-discarded physiology, and one, which with the ideas it perpetuates, can only hinder your progress.

RHEUMATIC OSTEITIS.

By C. MACNAMARA.

During the past year I have had two patients suffering from rheumatic osteitis under my care in the hospital. I wish to draw attention to these cases because they illustrate the advantages to be derived from incising bones affected with this form of disease.

G. M—, æt. 17, was admitted into the hospital on the 19th February, 1885, under Dr. Donkin's care, suffering from an attack of rheumatic fever. The patient's family history was good, and she had been employed as a maid-of-all-work up to within three days of coming into the hospital, when she was seized with fever, and with pain and swelling of the right knee- and ankle-joints. G. M— passed through rather a severe attack of acute rheumatism complicated with pericarditis; but she gradually recovered, the joints resuming their normal condition, with the exception of the right knee, which continued swollen and very painful. In these circumstances on the 9th of March Dr. Donkin asked me to see the patient. Her right knee was then very much enlarged and extremely painful, but what struck me at once on examining the limb was the swollen condition of the lower part of the right as compared with the left thigh, and the great pain caused by pressure applied over the lower end of the femur. This condition was evidently produced by enlargement of the bone; the tibia was not so much affected,

and slight passive movement of the knee-joint caused far less pain than pressure directly applied to the inferior extremity of the femur.

It was therefore evident that this was a case of rheumatic inflammation of a bone, extending from a joint for some time affected with synovitis. The rheumatic inflammation commencing in the joint had implicated the fibrous tissues surrounding the articulation, ligaments, tendons, and other structures being involved in the disease. But these structures are not merely attached to surrounding bones, they pass into and form a part of the osseous tissues, consequently rheumatic synovitis may lead, as in this case, to rheumatic osteitis; and in the more acute form of this affection the disease of the bone commonly commences in this way. In chronic rheumatic osteitis leading to the production of large osteophytes about the joints, and to one form of the condition described as "arthritis deformans," the disease usually originates in the sheaths of the tendons, bursæ, and fibrous structures outside the joint, and I think depends in many instances on chronic septic poisoning.

Our patient's leg was constantly flexed on her thigh so as to avoid the pressure of the tibia against the tender extremity of the femur, and it seemed almost certain, unless the osteitis could be relieved, that ankylosis of the knee-joint in a very unfavorable position would occur. Dr. Donkin had already employed blisters, rest, and all available remedies without improvement in the symptoms. On the 13th of March I proceeded to divide the soft structures over the anterior surface of the femur down to the periosteum; a small crucial incision was then made through this membrane and a sufficient space of bone denuded to enable me to apply a trephine, and so to lay open the cancellous structure of the bone. After the hæmorrhage from the bone had subsided, the cavity in it was dusted with iodoform, a drainage-tube inserted, and a back splint applied by means of a plaster-of-Paris bandage. Boracic wool was placed over the wound and secured in its place by a very light bandage, in order that unimpeded drainage from the interior of the bone might pass outwards.

It is not necessary to give the subsequent details of the

treatment and progress of this case, the patient from the time of the operation experienced great relief from pain, the former constant high temperature subsided, and on the 24th of April she was up and able to walk about the wards. G. M— was kept under observation for some time, and when last seen had returned to her former situation, having perfect freedom of movement in the right knee-joint. It may be well, however, to observe that at the time of the operation I fully and freely flexed and extended the patient's leg so as to break down any adhesions that might have formed between the femur and the tibia.

My object, however, in drawing attention to this case, is not so much with reference to the symptoms presented by patients suffering from rheumatic osteitis, or to the pathology of the disease, as to demonstrate the advantage which may be derived from cutting into a bone affected in this way. It is not only the periosteum, but the osseous tissues, which must be incised, and I do not think that, as a rule, such a proceeding is attended with more risk than dividing the soft structure, provided free drainage and antiseptics are employed. Whatever the cause of rheumatism may be, it seems that the pain it produces is owing to serous effusion into the affected fibrous tissues and to hyperæmia of its vessels. In this case there was not only effusion into the knee-joint, but also beneath the periosteum, and so probably into the cancellous tissue of the lower extremity of the femur, and there can hardly be any question that if this condition of things had continued permanent pathological changes would have been established in the bone and also in the joint. By trephining the bone, however, we not only gave immediate relief to the congested tissues, but any serous effusion which might subsequently have occurred in the part was enabled to drain, first through the tube, and subsequently into the surrounding soft tissues beneath the skin. It seems to me in a case of this description we relieve the pressure exercised by the exudation into the unyielding osseous tissue, in much the same way as by an iridectomy we remove the tension of the sclerotic and its consequences in instances of acute glaucoma. It may be asked, why not have controlled the circulation through the

congested tissues by pressure? An elastic bandage, however was applied before the operation without relief; in fact pressure of this kind caused such intense pain that it had to be abandoned.

With reference to the treatment of these cases, one of the most important points we have to determine is as to the necessity and the risk to the patient of an operation such as I have described. In the first place, however, it may be observed that an incision into an inflamed bone, by means of a Hey's saw, may be employed in place of the trephine, but I think the latter is preferable. I have already given it as my opinion that these operations are not attended with danger if care be taken to prevent inflammation in the part and to allow the serous and other effusions to escape freely from the wound outwards. There are bones, such as the vertebræ, head of the femur, and so on, which it is difficult to reach, but this does not invalidate the rule that bones in which we have reason to believe active or chronic inflammation is in progress should be incised, after we have failed to relieve the symptoms by internal remedies, rest, counter-irritation, and other means.

The second case I have to refer to is one of a different type, usually described as chronic rheumatic gout, sometimes as "arthritis deformans." Not a few of these cases evidently depend upon chronic septicæmia; in others, the joint affections are neurotic, or they may be simply rheumatic.

E. L—, æt. 23, was admitted into the Westminster Hospital in August, 1885. The patient was rather a florid-looking young woman; on her father's side the family was phthisical, but there was no marked history of rheumatism or gout; there was no evidence of syphilis. The patient was regular, and had for some years suffered from rheumatic pains in her arms and hands; she had hardly a sound tooth in her head, and had frequent abscesses in her gums; her breath was extremely fetid. I have little doubt that it was the absorption of purulent matter from the diseased bone at the root of these decayed teeth which produced the subacute synovitis from which the patient suffered; until within two months, however, of her

admission into the hospital she had continued at her work, although her right elbow and several of her fingers had become stiff "from rheumatism."

On admission into hospital, E. L—'s little fingers were flexed and fixed on her palms, the other fingers being more or less affected. Round the finger-joints hard nodules, resembling osteophytes, could be felt. These nodules, however, were largely caused by dense masses of fibrous tissue within the sheaths of surrounding tendons and bursæ; and by enlarged sesamoid bones. The patient's right elbow was ankylosed, and in the left there was only limited movement, but her lower extremities had been free of pain until some months before she came under my care; her left knee then commenced to swell, and she had deep-seated and constant pain in and about the joint. There was some effusion into the synovial membrane, and marked pain on pressure over the head of the tibia and the lower extremity of the femur, beyond the attachment of the synovial membrane. The patient was sent to Bath for the waters, &c.; care was taken to remove decayed teeth. Under this treatment she certainly improved much in health, but could not walk on account of the continued pain in her left knee. I determined, therefore, to trephine the lower end of the femur, and also the head of the tibia, both bones being equally painful on pressure. The operation was attended with marked relief of the symptoms, so much so that the patient was able in the course of six weeks to help in the work of the ward, though it is unlikely the progressive course of the disease in this and other joints will be permanently arrested. Nevertheless, by means of the operation performed on the tibia and femur the patient has been enabled to walk, and permanent destruction of the joint avoided until, it may be hoped, the course of the septic poisoning (rheumatism), may have been lessened if not actually overcome.

CLINICAL NOTES

ON

ANÆMIA AND HEART DISEASE.

By Dr. DONKIN.

The following paper is based on the observation of many cases which have come under my notice in the last few years in the course of teaching in the wards, and is but a compendium of several clinical lectures and remarks made from time to time to classes of students. Containing nothing which has any claim to originality these discursive jottings may nevertheless, I hope, be of a little use to some who realise that even what are regarded as simple and ordinary cases of disease are better understood by direct study at the bedside than by being referred to categories already cut and dried in text-books which, from the exigencies of written examinations often teach, to use the words of Lord Bacon, in a manner "for the most part magisterial and peremptory; in a sort as may be soonest believed, and not easiliest examined." Every careful clinical student knows that he has to correct for himself, with a view to right practice, the compendious lessons that he at first derives from most text-books and systematic lectures; that the commonest knowledge, to be useful, must be made his own by direct observation. Such remarks as those which follow

are but humble attempts to assist the student in this procedure.

I shall at first touch upon some of the signs and symptoms of anæmia, in so far as they seem to be in common with those of organic disease of the heart, with especial reference to the murmurs revealed by physical examination as repeatedly illustrated by a considerable number of cases which have been in the wards of late.

The correct estimation of the nature of these cases is obviously of great importance, when we remember the large number of patients who consult their self-chosen specialist, after having decided from their own sensations or with the aid of their friends that they are the subjects of heart disease. There is a very close likeness between the symptoms of anæmia and of organic heart disease, mitral regurgitation especially. London practice, and markedly in the hospital classes, gives numerous examples of patients, most often young women, who are suffering severely from shortness of breath on the least exertion, uneasy feelings in the heart region, with easily induced rapidity of the heart's action. Added to this, they may complain of swelling of the feet and legs; for, contrary to what is often stated, it is no uncommon thing for distinct, and for a time continuous, œdema to be observed a considerable distance above the ankles. Loss of appetite, too, disturbed digestion, characterised often by severe pain after food, with frequent vomiting and headache, are often prominent symptoms. All of these complaints are frequently made by the patients themselves, and many of them are almost as frequently, with the upper classes especially, put down to heart disease.

The similarity of these symptoms to those of some cases of organic valve disease being admitted, it is clear that when instances of this affection come at first under our notice, the judgment as to their nature must depend on a careful clinical study of the case; and this will be directed mainly to the previous history of the patient, and to the signs presented by physical examination. With regard to the first of these points, it may be enough to say that in proportion as it is possible to exclude the known causes of valvular disease of the heart, the diagnosis of such disease is

just so much weakened, in the absence of any positive physical evidence to support it. I lay some stress on this, as in more than one case, when the symptoms and physical signs, after careful observation, did not appear to me to conclusively settle the question as to whether we had to deal with a case of so-called anæmia or of organic heart disease, the apparently well attested absence of any affection leading to endocarditis has so far influenced my opinion as to lead to what proved to be the correct conclusion. But it is obvious, considering the admitted fact that rheumatic endocarditis may take place without any marked betrayal of its nature, especially in early life, that too much stress must not be laid, as a rule, on this aid to diagnosis, however useful in certain cases it may occasionally be.

The physical examination of the heart in many cases will clear up the diagnosis without much difficulty. The consecutive enlargement of the heart cavities occurring in cases of organic disease of some standing, apart from the question of the locality and nature of the murmurs which are in all probability present, is frequently enough to decide the matter at once, especially in the presence of the history of acute rheumatism. But the cases which we are now concerned with are those where this sign is absent, and where the suspected organic disease may be recent, whether or no there is a history of acute rheumatism. The difficulty which occasionally presents itself here is of course increased when there is reason to believe that acute rheumatism has occurred; for it must ever be remembered that so-called functional murmurs, with or without obvious anæmia, are developed with no great infrequency in the course of this disease, as the event will probably show, however great the question may be at first as to the meaning of the abnormal sounds. Several examples of this have occurred in my wards recently, and will be remembered by some who have attended the cliniques. And, again, we must not forget that cases of functional murmurs and anæmia are common enough when the anæmia does not at once reveal itself to a superficial observation of the patient. Profound anæmia, and those instances of it which are called chlorosis, for example, when accompanied by murmurs, occasion scarcely any difficulty; the nature of

the murmurs occurring with such an obvious symptom being often correctly arrived at in the absence of any history or of any effort of differential diagnostics. In certain cases, therefore, it becomes of the first importance for prognosis to decide as to how far the exploration of the site and nature of the murmurs heard can aid us in forming a definite opinion, before the result of the case renders clinical forecasts of little moment, as to whether or no the symptoms are due to organic valve mischief.

The usual teaching with regard to the murmurs of anæmia is that they are heard almost exclusively at the base of the heart in the pulmonary area. If this were the correct statement of the case, the clinical part of the question would be a simple one, and but little would be left but the still unsolved difficulty as to the true mechanism of "functional" murmurs. But it is now well known to most clinical students that not only in cases of anæmia, well marked or otherwise, but also in other conditions, temporary murmurs are heard over other points of the præcordia as well, and very frequently indeed at those points where organic valvular murmurs are usually sought for. And, further, far from it being the case, as is generally insisted on, that when such murmurs are heard, say at the mitral area, they are not conducted far, and cannot be detected in the vertebral groove, it is by no means uncommon for them to be easily demonstrated in the latter position.

It is useless to quote evidence here that the prevailing teaching gives but few hints at the occurrence of "hæmic" or so-called "functional" murmurs, or, to speak more correctly, of murmurs having the same clinical import as those that are called hæmic, at any point in the præcordia other than at the base of the heart, and as not being very limited in area, and heard best at the pulmonary cartilage.

The dictum of many, and notably of Dr. Walshe, on this point still holds the schools. It is of course admitted by several authorities that murmurs do occur, apparently connected with anæmia, at the other valvular orifices; but little stress is laid on this, and it may be fairly said that the clinical experience of many physicians must render their teaching on this point very different from that which is

generally accepted and finds its place in the text-books. Having been myself long convinced of the very frequent occurrence of murmurs, both in the mitral and tricuspid areas in cases of anæmia, disappearing completely on the recovery of the patient, and knowing that this was within the experience of many others, I can endorse very fully the remarks of Dr. Kingston Fowler on this head, in his Cambridge Graduation Thesis,* wherein many cases in point are brought forward, and their importance is insisted on more than in any published writing of which I am aware.

I could add many cases from my note-books almost exactly similar to Dr. Fowler's cases, which, suffering from obvious and demonstrated anæmia, have been marked by murmurs not only in the pulmonary area, but also at the other three valve-auscultation points, in different combination, and which have disappeared when the symptoms of anæmia no longer were present.

And besides the cases which I have seen in the wards, I have in my memory a large number of instances which I have observed in the out-patient room, where, whatever their mechanism may be, I have satisfied myself and others of the existence of well-marked murmurs both in the mitral and tricuspid areas, a systolic murmur in many cases being clearly audible at the angle of the scapula.

One case I may quote here, as having made a distinct impression on those who saw it at the time. A middle-aged man, the subject of moderate chronic bronchitis and emphysema, and in a marked condition of anæmia, was admitted to hospital under my care. Loud murmurs were heard at all the four orifices, the basic being conducted along the great vessels, and a systolic murmur of the same pitch and character as that heard at the apex was audible at the angle of the left scapula. I considered these murmurs not to be due to valve disease, both from their distribution and the history of the case. In less than six weeks the abnormal sounds had disappeared, the man having to a great extent recovered from his symptoms. There was evidence of enlargement of the right heart throughout his stay in hospital. Cases of this kind, or similar to it, in the ordinary anæmia of young

* 'On the Origin of Anæmic Murmurs.' J. K. Fowler, M.D. (Churchill).

women, are, in my experience, of very frequent occurrence; it would be overburdening this paper to quote them at length. Many cases I have had in my wards of late would, if reported, be almost replicas of those so well detailed by Dr. Fowler. I will only subjoin here short notes of a few cases taken out of my note-books during the latter half of the year 1883 and the year 1884, a period before I had paid any special attention to the present subject, and before Dr. Fowler's book had appeared. The cases, therefore, though not nearly so thoroughly observed as they should have been, have this value that they are free from the suspicion of over-refinement or bias, and were simply noted in the ordinary routine manner either by myself or the house physician without any object in view, and unaffected by any line of search. They constitute *all* the cases of anæmia which were admitted into my wards during this period, without choice, exclusive only of complicated cases and all who had had rheumatism; that is to say, all which after examination were classed as essentially cases of "anæmia." The first five were females.

Case 1.—E. B—, æt. 23. Murmur at left base, and apex, latter heard in axilla. Discharged well, no bruits. Normal dulness and apex in normal position.

Case 2.—A. L—, æt. 20. Bruit at left base and at apex; faint, not in axilla; also bruit at lower end of sternum. Normal dulness and apex beat. Discharged better, apex and sternal murmur hardly audible.

Case 3.—S. J—, æt. 23. Apex bruit, heard at back, also basic (left). Apex beat and dulness normal. (No note as to discharge.)

Case 4.—E. K—, æt 16. Systolic at base (left), only a few days in hospital.

Case 5.—Æt. 23. Systolic at base, both sides, loudest at left. Systolic apex loud. One month after, patient improved, murmur still heard faintly.

Case 6.—J. B—, æt. 63. A case which answered to the description of "pernicious anæmia." Apex normal position. Bruit at apex and base (both sides) developed under observation, and lessened with temporary improvement of strength and weight.

Since this date I could add many ward cases, as I have said, with apparently auriculo-ventricular bruits (as well as at the base), heard at the back with a frequency in proportion to their loudness. And in addition I have in my mind many recent cases seen as out-patients at the Tower Hamlets Dispensary in the East of London, where anæmia is endemic, whom I have seen again, with all their bruits silenced, after being cured by a residence in convalescent homes.

There is another physical sign in connection with these murmurs, upon which Dr. Fowler lays some stress, especially in connection with their etiology, which, though I am just now concerned mainly in attesting the existence of the murmurs and other physical signs in anæmia or in cases where there is no evidence of valve disease, and not with the discussion of their origin, I must allude to shortly, to recur to it later on. The apex beat, Dr. Fowler says, "is usually displaced somewhat outwards, often as far as the mammary line or beyond it. The area of dulness may be slightly enlarged; this is usually noticeable in the region of the apex." I have paid some attention to this point, which, of course, especially in relation to the dilatation origin of the murmurs heard in the mitral and tricuspid areas is of considerable attraction. But for several reasons I venture to question somewhat the generalisations of Dr. Fowler on this head. First, in *many* cases of anæmia with murmurs, the apex beat is in a sufficiently normal position to satisfy even the book student who looks upon convenient averages as facts in nature. Secondly, as before the patient comes under observation we have no means of knowing the normal position of that individual apex beat, and as in health many individual apices differ *markedly* in position, an alleged displacement somewhat outwards becomes of very small importance. Thirdly, with regard to "the area of dulness being slightly enlarged," the same criticism, I venture to think, applies. We must always be very careful before regarding slight differences from an ideal normality as morbid, and especially with respect to the diagnosis and prognosis of heart affections. The only cases where this point becomes of real importance are where the area of dulness and the position of the apex are either markedly abnormal, as in some of Dr. Fowler's cases, and

some also of my own, or where, either before or after the occurrence of the anæmia or the other symptoms for which the patient comes under observation, or at both these periods, some difference is established as to these physical signs from those which existed during the time when the patient is suffering. I have not made sufficiently careful observations on this head to be able to say anything about it; it would perhaps be possible to establish anything of value here only *after* the subsidence of symptoms. I do not find in Dr. Fowler's book any notes as to the position of the apex or the area of dulness after recovery, in cases where abnormality had been recorded during their illness. When such abnormalities undoubtedly exist in cases of anæmia, it would be of great clinical importance to inquire into the probable duration of the anæmia, or the conditions which have led to it; as some classification might then possibly be arrived at between cases of anæmia with normal apex beat and normal cardiac dulness and those of displaced beat and increased dulness. I have one case in my mind, which I saw not long ago, of marked chlorosis of sudden and recent onset, when the apex beat was certainly not displaced outwards, or rather, when the apex was beating in what is called the "normal" position. But on the question thus raised as to whether the duration of the affection has any connection with the apparent enlargement of the heart I have but few observations and no fixed opinion at present. It is especially Dr. Fowler's essay on this subject that turned my attention to this point, which is eminently worthy of future consideration. To sum up, I do not consider that as yet there is *physically demonstrated* evidence of dilatation of the heart in even the majority of cases of anæmia with murmurs over the auriculo-ventricular valves; and I believe that in some cases at least evidence of such dilatation is negatived. This, however, is very far from expressing an opinion that dilatation may not have to do with such murmurs in most, or even all, such cases. The theory is at least a probable one.

Apart from instances of very obvious and apparently substantive anæmia in which murmurs are heard over both ventricles, it is not infrequent to observe such murmurs in other conditions where, whether or not there is demon-

strable anæmia, some blood change may hypothetically and probably exist, and where there is every reason to believe that there is no organic change in the valves. And here I would even quote cases of acute rheumatism, especially in prolonged convalescence, when all fever and joint symptoms have disappeared. It is quite well known that in such cases a murmur confined to the pulmonary area is often heard, which from its position and what we know from post-mortem examinations, and from its ultimate disappearance, must be put in the same category with so-called functional murmurs. It is at least very probable that when auriculo-ventricular murmurs occur as well in cases of this sort, and disappear in like manner, they are not due to organic valve disease.

Again, but a short time ago, a case occurred in Westminster Hospital of a youth who had scarlet fever. It was a slight case, with no bad symptoms, but during the second week murmurs appeared at all orifices of the heart, without any rise of temperature or other symptoms. The heart's apex was in normal position, well within the nipple line, and both from the action of the heart and a consideration of the physical signs, I am of opinion that pericarditis was put out of the question. The murmurs in this case disappeared in the course of a few weeks, except that at the pulmonary orifice, which was very faint when the patient was discharged. Instances of murmurs of this character and course could easily be multiplied.

The existence of murmurs over the ventricles in cases where valvular heart disease can with all probability be excluded, must, I think, be regarded from the above evidence as established, and I would further express the belief that when such murmurs are heard in the mitral area the possibility of their being heard as well in the left vertebral groove or at the scapular angle depends on the loudness of the murmur, a quality which is closely connected with the vigour of the heart's action at the time. This is frequently exemplified by cases of well-marked organic disease, where, when the patient has been lying in bed for some time, the mitral murmur becomes very faint at the apex, and is perhaps heard not at all at the back, but where exertion may cause it to become much louder, and to be easily

heard at all the usual points. Advanced cases of mitral disease with dropsy and very feeble action of the heart at the point of death, frequently cease to display any murmur to auscultation, and every clinical observer will remember, in this context, instances of a faint mitral systolic murmur becoming very loud after exertion, with the addition of an equally well-marked presystolic element which was quite unheard while the patient was at rest. Doubtless many of the cases of mitral obstruction found post mortem where, owing to attention only to the murmur heard, the inaccurate diagnosis of regurgitation alone is so often made, would be very frequently evidenced during life by their proper murmur were the observations taken under varied conditions of the heart's action.

An interesting class of murmurs of probable "functional" origin, unconnected with valve disease, has been described by Dr. Angel Money in a paper published in the 'Medico-Chirurgical Transactions' for 1882, entitled "The Great Frequency of Murmurs in the Puerperal State." Among various modifications of the heart-sounds observed in this condition the most important was a systolic, endocardial-like murmur, heard over any part of the precordia, variably conducted, but most often loudest over the right ventricle about the fourth left space, close to the edge of the sternum; being practically what would generally be called a tricuspid regurgitant murmur. Murmurs of this class were heard in 51 cases out of 111 women examined. Dr. Money expresses his opinion that the mechanism of these murmurs is very doubtful, showing that there is no evidence for their being tricuspid regurgitant other than their position and place in the cardiac rhythm. He suggests indeed that they may be direct murmurs originating in the ventricular cavity, but leaves the question practically an open one. These murmurs, both in their character and their very doubtful origin, seem to me to be exactly parallel to those which I have mentioned as very often occurring in cases of anæmia. For in these, as well as those alluded to by Dr. Money, search is made in vain for any appreciable evidence of tricuspid regurgitation other than the murmur. I quite agree with Dr. Money that, as a rule, the alleged evidence given by percussion for slight

dilatation of the right ventricle is practically untrustworthy, as may be full often proved by post-mortem examination.

It is wise, with Dr. Money, not to indulge in much theorising as to the clinical cause of these murmurs, which, perhaps, is almost as obscure as their mechanism. He mentions indeed that a large number of his cases presented some degree of anæmia, but is unwilling to speculate further. He appears to be of opinion that the murmurs are transitory in character, disappearing sooner or later after the puerperal period.

Enough has been said to emphasise my present contention that in cases where such symptoms such as dyspnœa, some degree of œdema of the lower extremities, dyspepsia, &c., occur in conjunction with murmurs heard over the ventricles in the mitral or tricuspid areas, or both, neither the character nor the conduction of the murmur is sufficient to enable us to pronounce with confidence on the absence or presence of valvular disease. In that very large number of cases of anæmia where there is a murmur as well in the area of the pulmonary artery, the difficulty largely or altogether disappears; in the rest, the diagnosis must depend on a careful study of the clinical history and course of the case.

In proportion, however, as the cases of this kind are obviously connected with anæmia, so does the explanatory theory of these ventricular murmurs being due to regurgitation from relative incompetence of valves, connected with dilatation of the ventricles, become plausible and attractive. In both organic mitral disease and anæmia dyspnœa is a leading symptom. This of course may be explained to some extent by deficient oxygen reaching the nerve-cells of the "respiratory centre;" whether that deficiency be due to imperfect oxygenation of a normal amount of hæmoglobin in the one case, or to lessening of the quantity of hæmoglobin, however well oxygenated, in the other. But if it be true, as seems to be not improbable, though further observations are much needed on this point, that the worst and most chronic instances of anæmia are more likely to be attended with auriculo-ventricular murmurs than slight and transient ones, it may be that the actual regurgitation which may take place in these cases may help to bring the nature of the symptoms

into a still closer connection with those of mitral disease, by involving an appreciable amount of mechanical interference with the pulmonary circulation.

The fact of certain morbid appearances in the bodies of those who have died in a state of extreme anæmia may just be mentioned in this context, as especially pointed out by Dr. Fagge in his article on this subject. He points out that not only in pernicious anæmia, but also in other cases, such as cancer, severe hæmatemesis from gastric ulcer, hæmaturia, bleeding malignant tumours, &c., a granular or fatty degeneration of the muscular substances of the heart is often seen, and calls attention to the fact of such patients having long rested in bed as probably explanatory of the non-occurrence of such changes in the muscles of the body generally. In this pathological condition we have a *vera causa* at least suggested for the dilatation of the heart, which has been suspected and in some cases proved to exist in cases of anæmia during life. And it would certainly seem, as above hinted, that anæmia *per se*, of *short* duration, however severe it may occasionally be, is very often quite unaccompanied by the murmurs or the symptoms of which we have been discussing the nature and the cause.

I have observed certain cases of typical chlorosis, for example (which, in passing, I may say that I regard as clinically and probably ætiologically a very distinct and important variety of anæmia) that have been, for some time at least, quite unaccompanied by any murmurs at all; especially cases of sudden and recent origin, and more or less obviously connected with mental shock.

Again, it is, I think, well known, and I can corroborate the opinion from observation of many cases, that sudden hæmorrhage, producing even extreme pallor of the body, is rarely if ever accompanied by cardiac murmurs. The sudden and great anæmia in cases of acute nephritis, too, is unattended by this physical sign, although frequently accompanied by hurried breathing. In one case of the anæmia of nephritis I have known a pulmonary murmur to develop after a certain time.

On the whole, then, reviewing the clinical and pathological knowledge at our disposal as regards the cases of anæmia

we have been discussing, marked by many signs and symptoms which bear a strong resemblance to those of mitral valvular disease, it may be said that it is at least useful to bear in mind the possibility of many of these cases being connected with actual dilatation of the heart and regurgitation through the auriculo-ventricular orifices. At the same time I must repeat what I said earlier in this paper, that I cannot go the whole way with writers who, with Dr. Fowler, would regard the dilatation as hitherto established in any great degree by clinical observation. This explanation may perhaps at present be best regarded as a good working theory, awaiting further clinical corroboration.

It is especially desirable that unprejudiced observers should take note of the pulmonary second sound at the base of the heart in cases of anæmia with systolic apex murmurs, both of long and short duration. There are but few observations on this head. In a few cases I have found this second sound markedly accentuated.

Whether this theory of causation of the well-known phenomena be demonstrably true or not, it seems to have a practical bearing on treatment, and perhaps to be supported by certain results. However important, and in *some* cases all-important, the treatment of anæmia by fresh air and good diet is, and notwithstanding that many such cases derive material improvement from the administration of iron and arsenic in addition, it is equally certain that many severe cases of prolonged anæmia with marked symptoms make the best progress at first by being kept at perfect rest in bed, provided they are not confined in ill-ventilated rooms. Cases in hospital of this nature are sufficiently frequent which seem to rapidly improve without any other treatment than rest and good diet, and which certainly do not improve with equal rapidity if allowed to take exercise, however good their diet may be. I am inclined to insist very strongly on the value of rest at first in cases of anæmia, just in proportion as their symptoms approximate in character to those of ordinary mitral valvular disease. I place far more confidence in rest as an adjunct to iron in the treatment of severe anæmia than on iron so often given as an adjunct to rest, in cases of mitral disease.

Should the dilatation theory of many of the murmurs in anæmia ever come to be widely accepted, after more numerous observations on the subject, the cases in question which we set ourselves to inquire about at the outset will be brought to some extent under the category of organic heart affections; the heart suffering, in the constitutional condition, *par excellence*, just because it is an organ which never rests. Nevertheless, from the generally curable nature of a large number of these cases, it is well still to make a very clear mental distinction between such organic change in the heart structures as may exist here, and the permanent organic disease of valvular endocarditis. If the much-abused and, to the patient concerned, incalculably harmful term "weak heart" be ever appropriately used, it might perhaps be silently applied to cases such as this, but considering the very loose connotation of this term at the present day it should never be uttered. The patient should always, and especially in the case of nervous subjects, be clearly told that there is no heart disease. This dictum, though not perhaps sufficiently accurate to satisfy verbal purists, is one which will very often be of great therapeutical value; for undoubtedly the public notions of the character and importance of heart disease are gathered from second-hand accounts of valvular mischief. Therefore, in making this statement, one is telling the patient the truth in his own language, and indeed the real practical truth of the whole matter. I would here, in conclusion, enter a protest in the strongest terms against the use of the term "weak heart" to a patient, in almost all circumstances whatever. It is practically unneccessary to have recourse to such a term in a case of suffering from organic valve disease, for then it is almost always advisable to tell the patient more or less the literal truth.* But the words are generally used to patients who, of an unstable and excitable nervous constitution, find some of

* I say a case of "suffering," *i. e.* when there are symptoms or signs other than a *murmur*. We should be very careful not to look upon every case of even organic valve mischief as necessarily alarming. On this subject, as on many others, I would refer my readers to the recently published and invaluable lectures of Dr. H. G. Sutton on 'Medical Pathology'—a small volume, almost incomparable, I think, for its combination of knowledge and wisdom. Had I seen it before this article was already in proof I should have quoted largely from it.

their leading symptoms to be in their opinion connected with the heart, such as palpitation or pain. In many such cases I have found lasting harm done both to mind and body, and much usefulness taken out of life, by the patients being, inadvertently or otherwise, told they have "weak hearts." It is often a sure way to manufacture chronic invalids, who may at the same time become chronic patients. In cases of this kind the weakness is in the nervous system, or at least, whatever explanatory term may be used, is of a general nature, and to be treated on general principles. The heart itself is in no sense "weak" at all, except as indirectly partaking of the general conditions of faulty innervation. The treatment here would be generally of a very different character from that advisable in cases where we should in any sense be justified as looking at the heart, *par excellence*, to be the "weak" point. Some of the most miraculous cures in medicine can sometimes be wrought by being able to assure a patient with literal truth that a heart which he has believed, on the strength of a medical opinion, to have been "weak" for years is an absolutely sound organ. It is marvellous to see how such an assurance alone enables some year-long, and no hypochondriac, sufferers to at once discard their sickness, and become healthy and happy and useful once more. The public in encouraging the profession to multiply artificial specialisms has certainly inflicted on itself no little injury and loss in this matter of the heart.

CHRONIC AORTITIS

AND ITS CONSEQUENCE

ATHEROMA.

By Dr. HEBB.

By atheroma of the aorta I understand those degeneration results which render rigid and inelastic the aortic tube.

The naked-eye appearances of atheroma, although having a rough general resemblance over a given area, are sufficiently different to offer an explanation of the different results which are so frequently seen. Sometimes the aorta throughout is converted into a stiff and rigid tube, the internal surface being rough from the projecting edges of the yellowish calcareous plates; sometimes these patches of induration are distributed quite irregularly, while the intervals are apparently quite healthy; sometimes, again, the calcareous changes are only found at the first part of the aorta. Not always, however, are the areas of degeneration hard and calcareous, on the contrary they may be quite soft, but without elasticity; and the patch affected rises up from the level of the intima like a small island, the edges sinking more or less insensibly into the healthy surrounding aortic coat. As a rule, in this soft condition, the centre of the degeneration patch is the highest point, while the calcareous plate is frequently saucer shaped, that is, its edges are everted and quite free. This fact of itself is quite

sufficient to upset the ordinary received opinion that rough points and prominences within the systemic circulation are inevitably followed by coagulation, thrombosis, embolism, &c.; but these things, however, do not happen although the roughened condition of the aorta and other vessels is frequent enough. Under the foregoing circumstances the aortic wall may become thickened or thinned. It is in the soft condition, that is, of course, in the earlier stages, where the vessel's wall is found thickened and swollen. The greatest amount of swelling in my experience has been at the edge of the inflammation when it has been advancing upwards or downwards, the aortic tissue immediately above or below being quite sound.

Of course, the thickening and enlargement are due to the presence of foreign elements and to the swelling of the indigenous arterial tissue. The wasting is due to the changes taking place in the previously swollen areas; changes which result in the formation of a soft, gritty, yellow-looking material which eventually may become purely calcareous.

Now, although this atheromatous condition is in itself highly interesting from a pathological, and, as I have hinted before, from a physiological standpoint, yet its claim to consideration is rather due to its clinical aspects. For sometimes this atheromatous condition gives rise to or at least is accompanied by a bulging of a certain part or parts of the arterial wall which is known as aneurysm.

But I am not concerned with aneurysm nor how it is produced, for the mere existence of the chronic inflammatory change in the vessel's walls, even when of an extreme degree, is certainly not the only element which is required for the production of an aneurysm. Indeed, the worst cases of atheroma where the whole arterial tube has been converted into a stiff pipe with a rough lining are frequently without a trace of local bulging. The production of an aneurysm must therefore require other factors than the mere degeneration of the arterial walls, although, unless we presuppose a natural weakness, this is doubtless a *sine quâ non*. But if the production of an aneurysm excites my curiosity that curiosity is more than equalled by my astonishment at the statements which are constantly made in books and lectures

on physiology with regard to the coagulation of blood or rough or pointed surfaces. If this were the case why is it that such coagulation does not occur, does not ever occur, I might say, when the aortic is simply a pathway bristling with invitations to coagulation? The rough plates and the uneven surface have existed for years, but there has been no coagulation. The physiological laboratory is armed with a vast number of beautiful and complicated instruments for examination of the processes which go on in the living body, and these easily disprovable doctrines are still handed down. These things may be called the curiosities in the literature of atheroma.

Another curiosity is the way in which the aortitis spreads. In a large proportion of cases it apparently begins at a number of irregularly placed foci which may eventually more or less generally coalesce; in other cases the upper part of the arch, is that which is first attacked, the inflammation spreading downwards in a manner frequently under these circumstances resembling an undulation, leaving the commencing part of the arch quite free from the induration; in others, of course, the atheromatous change is associated with and accompanied by valvulitis; while, again, in others—and this is noteworthy from a clinical point of view—the aortitis spreads downwards to the aortic root without the aortic valves being in any way affected. I believe, too, that the inflammatory change may begin at the root of the aorta, the valves remaining healthy, but this condition of things is assuredly more rare. In this conjunction it may be well to allude to the existence of opaque patches so frequently seen immediately above the aortic ring and about the level of the coronary arteries. These are usually atrophic in their nature and both pathologically and clinically insignificant.

The next step in the consideration of atheroma is to examine the artery microscopically. By making a section through part of the arterial wall calcareously degenerated little more is to be learnt than what might have been expected from a surface view. A calcareous brittle plate, lined by the external fibrous coat of the artery, is pretty much all there is to be seen. A similar inspection of the softer part shows a yellowish stratum, situate about the middle of the arterial

wall. This stratum may be in one of three conditions: a soft semi-fibrous state, resembling fibrous tissue after the action of acetic acid; a semi-fluid condition, exuding a whitish or yellowish juice when expressed; or it may contain yellowish granular material familiar under the name of cheesy matter. This situation of the degeneration with its various phases is the ordinary condition seen in atheroma, but I have not unfrequently found, when the thickening has been well marked, and the tendency to advance has been by continuity, that the swelling, which was general, resembled rather a fibrous transformation with small and irregular patches of degeneration.

Before proceeding to the abnormal appearances of the aorta when chronically inflamed it will be advisable just to refer to its normal structure. The wall of an artery is usually described as being composed of three coats, an inner, middle, and outer. The tunica intima is made up of layers of fine connective and elastic tissue, and is lined internally by a stratum of flat epithelium. The middle coat of the aorta is made up of a series of parallel elastic laminæ between which are sandwiched bundles of unstriped muscle and connective-tissue fibres. The innermost elastic lamina is usually described as being stronger and more defined than the rest, and in smaller arteries is very conspicuous in the division between the intima and media. The tunica externa is composed of fibrous tissue in which ramify nerves and blood-vessels. The latter, derived from some more distal source, are called vasa vasi, and their function presumably is the ordinary one of blood-vessels, namely, to supply nutritive material to their area of distribution. But this function is denied to them. It is expressly stated that in the normal artery the intima and media are devoid of vessels. For the purposes of this paper I have examined several perfectly smooth and elastic aortæ of adults. All showed vessels, easily demonstrable, and running more or less directly upwards to beyond the centre of the media. The microscopical appearances of the sections from these aortæ were quite normal and showed no trace of degeneration. It may therefore be taken for granted that the vessels in the media were normal vessels and that they were there for the same

purpose for which they exist in other parts of the body, namely, to supply nourishment to the tissue, the middle coat at least of the aorta.

With regard to the existence of capillary vessels, the above-mentioned normal examples do not afford any evidence, although it would seem almost incredible, at least arguing from the condition of things in other parts of the body, that they should not exist. From the morbid specimens to which I shall allude later on, evidence of their existence may be deduced, but this is only to be accepted as favouring the possibility of their existence under normal and healthy conditions. Why the arterial tissue should be regarded as non-vascular (for the media is practically the artery) is probably partly owing to the course which the finer vascular channels take, that is, they lie parallel to the laminæ. Another reason for not being able to demonstrate their existence might arise from the impossibility of injecting them, as their blood-supply must obviously take place during diastole; as artificial injection is always a condition of prolonged systole the natural channels would remain permanently closed. But their presence may become evident when disease has rendered their walls rigid by a thickening of their coat or by surrounding them with inflammation cells or by dilatation of their calibre. Now, the presence of blood-vessels in diseased conditions of the aorta can only be explained either on the supposition that they have been merely rendered evident by a thickening of their walls or that they are the consequence of inflammation, an inflammatory new growth, so to speak; or, adopting a half-way course, they may be developments from a few vessels pre-existent before the necessity for their existence had arisen.

Now, the morbid process which has for its result atheroma is called chronic endarteritis and is invariably described as consisting of a swelling of the laminæ, together with the production or appearance of a large number of indifferent or lymphoid cells into the deeper layers of the intima. If any work, English or foreign, on pathology be consulted for chronic endarteritis or atheroma, the above stereotyped formula will be found. Given the cell accumulation the rest seems to follow easily enough. In consequence of the swell-

ing of the laminæ and the cell accumulation a boss-like protuberance is found projecting into the lumen of the vessel. The cells undergo fatty, and finally calcareous degeneration, and thus all the consequences and ill results are produced which are known as atheroma of the aorta.

This kind of pathology is extremely pretty and has the great merit of being extremely simple and easy of comprehension. Unfortunately it does not agree with facts. As I shall presently adduce the results of my own observation, I need not stop here to criticise the above statement, but will content myself with pointing out one fact which appeals to a laic as well as to a professional. It is this: If in chronic endarteritis are produced all these cells in the deeper layers of the intima why are they not shown to us? Why, again, are they not pictured in books, and finally I should like to ask why do we not see some traces of cell-proliferation at the margin of these degeneration patches in the aorta? Again, it may be pointed out that the book or classical endarteritis exhibits itself under only one form, with which everyone no doubt is perfectly familiar from inspecting the pictorial representations of these text-books from Rindfleisch down to Green. Now, although appearances like those found in the classics can easily be obtained from atheromatous conditions of the aorta, yet I wish to point out that, so far from representing the rule, the condition alluded to is in reality the exception.

The verbal description of chronic endarteritis reads for all the world as if the process were similar or akin to that of tuberculisation, with its central area of degeneration and peripheral zone of inflammation, and yet side by side with this description is the advertisement and warning that the media and intima are extra-vascular structures, and that while the externa is supplied liberally with blood-vessels and nerves, the artery (for the media may to all intents and purposes be regarded as being practically the vessel itself), a highly complex structure, is in the same condition as a lump of cartilage the structure of which is eminently simple.

Before turning to the minute anatomy of aortitis I take this opportunity of alluding to the fact that the cases adduced have not been selected for the purpose of my argument, but

are just those which I have examined since January, 1885. The microscopical appearances are preceded by a few words which may serve to give the reader a notion of the cases from which the sections have been prepared.

Case 1.—P.M. Book, vol. iii, p. 9. Male, æt. 27. Disease, chronic renal.

Post-mortem examination.—Small, red, granular kidneys. Hypertrophy of left ventricle. Throughout the aorta are scattered patches of atheroma of the softer kind.

Microscopical appearances.—Intima thickened. At the lower part of the intima are areas of fatty degeneration; there are no inflammation cells in or around the degeneration areas. Above and outside is a network of fine vessels. In the media and externa are numerous vessels surrounded by inflammation cells. The media is much contorted at those places perforated by the vessels.

Case 2.—P.M. Book, vol. iii, p. 70. Male, æt. 46. Disease, cardiac. Incompetence of aortic and mitral valves.

Post-mortem examination.—There is considerable atheroma, attended by much thickening and much thinning of the aorta in places; the thinner parts are the seat of aneurysmal bulgings; the Valsalvan pouches are much dilated.

Microscopical appearances.—General thickening of the aortic coats, in all of which can be traced numerous blood-vessels surrounded by inflammation cells. The general direction of the vessels is at right angles to the long axis of the aorta, and their effect has been to produce a distortion resembling that from cicatricial tissue. In the intima are numerous irregular-shaped patches of degeneration. The vessels in the externa are surrounded by masses of inflammation cells.

Case 3.—P.M. Book, vol. iii, p. 137. Male, æt. ? Disease, cardiac.

Post-mortem examination.—Weight of heart 19 oz. Aortic valve = 3·0 inches. Mitral $4\frac{3}{8}$ inches. Throughout its extent the thoracic aorta is very thick, soft, inelastic, and uneven; there are several localised bulgings in its course. The

unevennesses of the intima are easily detached and there are but few patches of calcareous deposit.

Microscopical appearances.—Intima and media are much swollen. Numerous vessels passing from the externa traverse the media and reach, in some places, almost up to the innermost layers of the intima. In places they spread out in a fan-like manner. Their general direction is at right angles to the long axis of the aorta, and most of them are surrounded by more or less numerous masses of inflammation cells. In the intima and media are many irregularly-shaped patches of degeneration.

Case 4.—P.M. Book, vol. iii, p. 148, female, æt. 37. Disease, cardiac.

Post-mortem examination.—Pericardium adherent. Heart with pericardium weighs 18 oz. Stenosis of mitral. At the base of the aorta, between the coronary level and other cusps, are two nearly circular patches, each nearly the size of a sixpence, of softish atheroma. The rest of the aorta is quite normal.

Microscopical appearances.—Over the oval patch of degeneration, which contains several collections of calcareous matter, the intima is much thickened. The media is in places the seat of numerous vessels passing upwards from the externa at right angles to the long axis of the aorta. There is considerable distortion of the media in the neighbourhood of the perforating vessels. There are scarcely any inflammation cells round about the perforating vessels of the media.

Case 5.—P.M. Book, vol. iii, p. 175. Male, æt. 34, brought in dead.

Post-mortem examination.—Pressing on the left bronchus is an aneurysm the size of a Tangerine orange. The aneurysm, arising from the upper part of the descending arch, has eaten away the bronchial wall. Throughout its extent the aorta is in an advanced condition of atheroma.

Microscopical appearances.—The intima is everywhere somewhat thickened and in places infiltrated with small indifferent cells. The media and externa are the seat of

numerous vessels which generally have an oblique direction upwards from the externa. Nearly all are surrounded by dense masses of inflammation cells. The arterial coats show many areas of degeneration, some small and irregular in shape, others larger and oval, situated at the base of the intima. Within the latter patches are collections of calcareous matter. The media is greatly distorted from the torsion produced by the new vessels, which in places reach almost to the internal layers of the intima.

Case 6.—P.M. Book, vol. iii, p. 188. Male, æt. 33. Disease, cardiac and aneurysm.

Post-mortem examination.—There are aneurysms of two Valsalvan pouches; both are hemispheroidal. The larger has a diameter of 1½ inches, the smaller is about half the size. Throughout its extent the aorta is in a condition of advanced atheroma.

Microscopical appearances.—The intima is somewhat thickened in places. The media is swollen, and the seat of considerable, but not advanced, degeneration. Throughout the degeneration areas pass upwards many vessels, all of which are surrounded by the usual crowds of inflammation cells. The externa is the seat of numerous vessels, the coats of which are ususually thick. The degeneration areas contain a few collections of calcareous matter. The direction of the vessels in the media is very irregular. In the intima are a few fine vessels lying close to the innermost laminæ.

Case 7.—P.M. Book, vol. iii, p. 219. Male, æt. 42, brought in dead.

Post-mortem examination.—Throughout its extent the aorta is in the condition of advanced atheroma. There is a large fusiform aneurysm at the upper part of the descending arch. It communicates by a small opening with the left pleural sac, which is full of blood-clot.

Microscopical appearances.—The intima is but little swollen. There is considerable degeneration in the media, which is distorted by vessels (some of them very large) passing from the externa upwards as far as the intima; all these are surrounded by crowds of inflammation cells. The direction

of the vessels is both oblique and also at right angles to the laminæ. The arterioles of the externa have extremely thick walls.

Case 8.—P.M. Book, vol. iii, p. 262. Male, æt. 37. Disease, aneurysm.

Post-mortem examination.—Throughout its first two divisions the aortic arch is in the condition of (chiefly) soft atheroma and there are three distinct aneurysms in its course. The left recurrent laryngeal nerve is stretched over the largest aneurysm, with the wall of which it becomes incorporated and as a nerve obliterated.

Microscopical appearances.—The intima is thickened. The media is the seat of degeneration patches, irregular in shape, and is traversed by numerous vessels which chiefly run in a direction parallel to the laminæ, but some are oblique. The media as a whole is much distorted by the vessels, which in places are surrounded by masses of inflammation cells. The externa is much thicker than usual, and is the seat of numerous masses of small indifferent cells heaped up around the blood-vessels. In the lower media and the adjacent upper externa are vessels with extremely large lumina, but except in the outer coat these vessels are not surrounded by cell-growth.

Case 9.—P.M. Book, vol. iii, p. 273. Male, æt. 42. Disease, aneurysm.

Post-mortem examination.—At the upper and front part of the ascending arch is a globular aneurysm the size of a small cocoanut. The thoracic aorta is throughout in an advanced condition of atheroma.

Microscopical appearances.—The intima is much thickened and shows a tendency to separation of its laminæ, and the formation of interspaces. The lower part of the intima is degenerated in places with some deposit of calcareous matter. Everywhere the media is in an extreme condition of distortion produced by vessels passing perpendicularly upwards from the externa. These vessels are arranged in loops, the bows of which run along the junction of the media and intima. The vessels are large and the surrounding indifferent cells are few in number. The externa is very thick.

Case 10.—P.M. Book, vol. iii, p. 315. Male, æt. 40, brought in dead.

Post-mortem examination.—Weight of heart 15 oz. Aortic cusps thickened and recurved. The ascending and transverse portions of the arch are in the condition of advanced atheroma, the rest of the vessel is quite smooth and elastic.

Microscopical appearances.—The intima is much thickened. Its internal layers are in places the seat of a network of capillary vessels. There are no cells surrounding them. The more external layers are the seat of degeneration patches. In the media are numerous vessels, which pass straight upwards and also obliquely from the externa. They are surrounded by more or less numerous inflammation cells. There is some distortion of the media. The externa seems fairly normal.

Case 11.—P.M. Book, vol. iii, p. 327. Male, æt. 74. Disease, bronchitis.

Post-mortem examination.—Weight of heart 11 oz., valves normal. The aortic arch is the seat of numerous nearly circular patches of softish atheroma. The average size of these patches is about that of a sixpence; their disposition is irregular and the intervening tissue seems fairly normal.

Microscopical appearances.—The intima is much swollen, and there is a tendency to separate into layers; the lower strata of the intima are the seat of degeneration, which is traversed by inosculating bands with double outlines, bearing a few nuclei in places. The media is the seat of numerous vessels unattended by cell-proliferation in their vicinity. The vessels of the externa are numerous, with large lumina and thin walls.

The result of the microscopical examination of these cases amounts to this: that wherever there is atheroma of the aorta this condition is preceded by a production of vessels which ramify with especial luxuriance in the media, although in the intima a few may sometimes be observed; that these blood-vessels tend to pass more or less directly inwards from the outer coat towards the inner, and that they are usually surrounded by small indifferent inflammation cells;

that their presence (and the results thereof) produce more or less distortion of the medial laminæ; that the areas of fatty and calcareous degeneration are the direct result of the presence of these vessels and their satellites. For not only must the twisting of the laminæ alter the nutrition of the media, but it must upset the drainage equilibrium altogether. The distortion is aided by the presence of the indifferent cells, which act as foreign bodies, clogging up the channels of circulation.

Although this explanation of the degeneration of the aorta from chronic endarteritis is sufficiently simple, it is more complex than the one usually adopted, which does not require the presence of blood-vessels. The ordinary view is that the laminæ swell up and cells appear. Then the cells and laminæ begin to pass through the various stages of degeneration. This is quite too simple, and we prefer to think that the main factor of chronic endarteritis should be declared to be a morbid vascularisation, either primary or secondary. For it is quite conceivable that the vessels appear, because there is some antecedent necessity for them on the part of the aorta.

However this may be, we may distinguish two kinds of aortitis of which Cases 3 and 4 may be cited as typical examples. In Case 3 there are many vessels with their attendant cells, degeneration of the media with much distortion; such is the condition of the aorta throughout. In Case 4 the process has been the same, that is, there are new vessels, an area of degeneration and some distortion, but there are no surrounding indifferent cells, and the inflammatory process has been limited to a small part of the aorta. In the abstract I should only make a difference of degree between the two classes, but in the concrete, that is, as far as the patient is concerned, they are very different. The arteritis is the cause of death in the one case, in the other it is merely an incident, almost an accident. To such an extent is this true, that even microscopically it is quite possible to give a fairly accurate opinion of the general condition of the aorta from an examination of one or two microscopical preparations.

The foregoing law is not to be regarded as being mathe-

matically true, that is to say, the two classes of arteritis cannot be divided by any hard and fast line. It is only approximately true, and the exception I specially indicate is that both varieties may be found in the same aorta.

Examples of the more severe type of arteritis will show instances of the less deformed, less distorted, less vascularised appearances of the milder type. The greater includes the less. But the converse is not, in my experience, true. An aorta in which there are patches of the milder type of arteritis does not give any evidence of a tendency to inflammatory progression. It starts more mildly, and runs a more benignant course.

In concluding this paper, too short for the importance of the subject and the novelty of the position taken up, it only remains for me to insist on the fact that the degenerations found in the aorta are either the result of a morbid vascularisation, which may have for its etiological factor a common or specific cause, or that the over-production of these abnormal vasa vasi are the concomitants of the inflammation.

NOTES FROM THE THROAT DEPARTMENT.

By Dr. DE HAVILLAND HALL.

In continuation of the notes I contributed to the 'Reports' of last year, I have selected a few of the most interesting of the cases which have since come under treatment in the throat department, and I have directed attention to the special points of interest.

J. T—, a man æt. 56, applied on the 18th of March, and stated that on February 27th he fell about eight feet across a pair of steps, and struck the thyroid cartilage. He at once noticed partial loss of voice, and this continued up to the time he came under observation.

On making a laryngoscopic examination an extensive ecchymosis was seen reaching from the attachment of the epiglottis on the one side along the ary-epiglottic fold across the arytenoid cartilage to the other side of the epiglottis, the hæmorrhage being more marked on the left than on the right side. On phonation the left vocal cord did not advance up to the middle line. A week later the voice was improved and the hæmorrhage clearing up, and in another week there was no appearance of the ecchymosis, though when the patient was discharged the voice was still weak. The impairment of movement of the left vocal cord was clearly due to the infiltration of the tissues around the arytenoid cartilage preventing the free rotation of this body.

It is not often that the opportunity is afforded one of observing the formation of a web between the vocal cords,

but a case came under my notice last year which shows how rapidly these adhesions may take place.

H. H—, æt. 22, applied on October 21st, suffering from dyspnœa. On inquiry it was found that he had a venereal sore fifteen months previously, followed by sore-throat and eruption. About February or March he began to have difficulty of breathing, and this has continued to get gradually worse, and the last two weeks he has had a cough. On making a laryngoscopic examination the cords were found to be adherent by a narrow band occupying about a quarter of the length of the cord on the left side and a sixth on the right. In addition there was extensive and deep-seated ulceration of the left leg. Having been at sea he had not had any medical treatment. He declined to be admitted, so was ordered iodide of potassium, ammonia and bark, with an ointment of vaseline and the red oxide of mercury.

On October 26th it was found that the cords were adherent nearly throughout their entire length, and, as may be imagined, the dyspnœa was intense. The patient was at once admitted and tracheotomy was performed. As the man was in a very debilitated condition of health I did not consider it advisable to commence the division of the membranous band between the cord, fearing to light up fresh mischief in the larynx. In February I began to accustom his throat to the passage of the sound, but unfortunately his leg, which had begun to heal, broke down again and I deemed it well not to attempt anything in the throat, and since then I have been prevented by my own illness from attending to him. The treatment, however, is only deferred as the patient is naturally most anxious to be in a condition to dispense with the tracheotomy cannula.

The lesson to be drawn from this case is, I think, the necessity for prompt treatment if the vocal cords show any tendency to become agglutinated together. If I had been able to persuade the patient to come into the hospital when he first applied, I do not think there would have been any difficulty in tearing through the narrow band which connected the cords; unfortunately on his second visit adhesion had taken place to such extent that the immediate performance of tracheotomy was required.

Though the patient whose case I am about to describe did not come under treatment until February of this year, yet as the out-patient department has been closed during the greater part of the year, I shall not have material for a paper in the next volume of 'Reports,' and therefore I thought it well to take this opportunity of drawing attention to an example of an important class of cases.

C. F—, æt. 25, no occupation (his right foot has been amputated on account of diseased bone), applied at the out-patient department on February 18th, 1886, and complained of sore-throat, which came on quite suddenly on the 6th; he had never suffered from a similar attack. He complained of considerable pain in swallowing. He had not shivered. Pulse 112, temp. 100·6°. He has a continuous short, hacking cough. Voice almost absent. Epiglottis and arytenoid cartilages much swollen and very red, and covered with thick sticky mucus. Vocal cords white, not approximating. Urine 1035, acid, no albumen, urates. Morning temperature 99°, evening temperature 103°. He was ordered Vapor Benzoini continuously throughout the day, and iodide and citrate of potassium every six hours.

February 11th.—Less pain about the throat, can swallow better. Throat generally relaxed, mucous membrane congested. Tongue coated. Bowels not acted. Morning temperature 101°, evening temperature 99°. To continue medicine and inhalation, and to take an ounce of castor oil.

12th.—Breathing much better, the congestion of throat is not nearly so marked, and swallowing is not at all painful. Morning temperature 101·8°. 6 p.m.—Difficulty of breathing has come on suddenly. Tongue greatly swollen and painful, cannot swallow so well as yesterday. Temperature 104°. Ordered Tinct. Aconiti ♏j every ten minutes for first hour, then every hour for three hours.

13th.—Morning temperature 103·4°, at 12 noon 98·4°, at 8 p.m. 102·4°. Tongue not so swollen, under surface covered with a greyish membrane. Still more difficulty in swallowing. To return to the iodide and citrate of potassium, to have a gargle of chlorate of potassium and an ounce of castor oil.

15th.—Swelling of tongue much decreased. Can protrude tongue, which is covered with a thick white fur beyond the teeth. Temperature normal yesterday and to-day.

17th.—Mucous membrane of epiglottis and arytenoid cartilages still swollen. Vocal cords white.

19th.—Ordered Tinct. Ferri Perchlor., ɱxxx ter die.

24th.—Still hoarse. Vocal cords slightly congested, otherwise quite well.

From this day he made satisfactory progress, and was discharged from treatment quite well. We have in this case to do with a condition which in my mind it is impossible to distinguish from erysipelas. It is quite clear that the mischief commenced in the larynx and thence spread to the pharynx, fauces, and tongue. On admission it seemed as if scarification of the mucous membrane would be required to prevent œdema of the larynx, but keeping the patient in a warm moist atmosphere sufficed to relieve the congestion. Cases of erysipelas and acute primary œdema of the larynx require the most vigilant treatment, and if scarification does not give relief tracheotomy should at once be had recourse to. The old term *œdema of the glottis* should certainly be abandoned. As has been pointed out, the glottis is a space, and cannot therefore become œdematous, and, moreover, the boundaries of the glottis are just the very parts which are the least disposed to become œdematous. This was clearly shown in my case, where the vocal cords appeared white and healthy, although the aryepiglottic folds were greatly swollen. Hence I have made use of the expression *œdema of the larynx*, which has been suggested as an alternative.

The condition of the tongue was that which has been so well described by Butlin* under the title of acute glossitis, the only point of peculiarity being that in the case under consideration the larynx was primarily attacked, and it was not till forty-eight hours later that the tongue became affected. As soon as the tongue became affected the laryngeal trouble was masked, and the further course of the disease was that of a case of acute glossitis. When we come to discuss the probable cause of the disease it is difficult to assign with certainty the precise condition which leads to it.

* 'Diseases of the Tongue,' p. 87.

Butlin holds with De Mussy and Duckworth that it is a catarrhal affection, but, as I have already stated, I was inclined to look upon the case as one of erysipelas of the larynx and pharynx, with subsequent implication of the tongue. That you may have erysipelas without any cutaneous manifestations of the disease is indisputable, though, as Morell Mackenzie* says, "There are no pathognomonic signs by which the disease can be recognised when confined to the mucous tracts." But after all, this is rather a dispute about names, as, according to Bristowe,† "Exposure to cold and atmospheric changes generally" are especially to be regarded as causes of erysipelas. So that on either theory the cause, viz. catching cold, was the same.

In vol. i of these 'Reports,' at p. 127, under the head of neuromimesis, I recorded a case of laryngismus stridulus occurring in a woman of thirty. A similar case, though of a much more severe character came under my observation during 1885.

A. A—, a shop assistant, single, æt. 20, was brought to my out-patient department on December 2nd, gasping for breath, complexion somewhat livid, but voice clear. To all appearances the woman seemed to be in a very citical condition. The history I obtained was that she had been feeling tired all the week, and while walking home on the night before she suddenly found that she could hardly breathe. She also complained of some difficulty in swallowing and had the sensation of a ball in the throat. Inspiration was accompanied by a certain amount of stridor, expiration being easy. As I have said above, the voice was clear.

On making a laryngoscopic examination, I found that the cords were normal in appearance and approximated on phonation. On inspiration the cords tended to approximate, and they separated on expiration.

As the patient appeared greatly distressed she was admitted as an in-patient and ordered bromide of potassium and valerian. Her breathing soon became quite easy and she was discharged five days later quite well.

* 'Diseases of the Throat and Nose,' vol. i, p. 199.

† 'Theory and Practice of Medicine,' 4th ed., p. 290.

She applied again at the hospital in February and stated that she had had a return of the difficulty of breathing. She now complained of pain in the left infra-mammary region, and said that though regular she suffered a good deal of pain at the periods. Similar treatment as on her first visit, with the addition of an aloes and asafœtida pill, sufficed to remove the spasmodic tendency of the adductors of the cords.

Cases of laryngismus stridulus, or, as Morell Mackenzie prefers to call it, spasm of the glottis of neurotic origin, require to be differentiated from spasm due to other causes as, for instance, the presence of a growth or a foreign body in the larynx. The age and sex of the patient will perhaps give a clue to the condition present, but a laryngoscopic examination, if practicable, is absolutely necessary to settle the question. I say if practicable because I had one patient in whom spasm of the glottis was caused by cocain spray, and here it was quite impossible to get a view of the larynx on account of the extreme mental and physical distress of the patient. As regards treatment, at the time of the attack the spasm may be so severe as to necessitate the use of chloroform; in the intervals bromide of potassium, or one of the preparations of valerian will be found useful, but in all cases attention should be paid to the cause which is keeping up an undue excitability of the nervous system, and this is frequently to be found in the generative system as dysmenorrhœa and symptoms of ovarian irritation are commonly met with in these cases.

Two cases of growth within the larynx are worthy of more than passing mention.

The first case was that of a woman, æt. 27, who first attended in January, 1881, suffering from hoarseness, and a polypoidal growth the size of a split pea was detected. Its removal was advised, but the patient would not consent, and I saw nothing more of her till September 30th, 1885. She then stated that her health had been fairly good till January, 1885; since then she had had shortness of breath, cough, hoarseness, and loss of flesh. On examining the larynx the small pea-like growth of four years previously had developed to a size of a large blackberry; it was

attached to the right vocal cord by a broad base which occupied about two fifths of the cord, the pedicle then became narrowed and again expanded into an irregular roundish mass of a pale pink colour. After a few sittings to accustom her to the introduction of the mirror and forceps, the pharynx and larynx were sprayed with a 20 per cent. solution of cocain and the growth was seized with Mackenzie's laryngeal forceps and removed. The use of cocain greatly facilitated the operation as I was able to see exactly how I had seized the polyp and thus could peel its attachment off from the cord without breaking the growth at the pedunculated part. A large pellet of blood followed the operation, but there was no further discomfort. The vocal cord soon showed no signs of the growth except that it remained a little thickened, and the voice became quite clear. Dr. Heneage Gibbes examined the growth microscopically and pronounced it to be simple hypertrophy of pre-existing tissue. This case is of interest as it afforded an opportunity of noting the rate at which these new formations grow.

The second case was that of a gas-stoker, æt. 45, who stated that he had worked until a week previous to his application. The glottis was found to be almost filled by a huge cauliflower growth, white in colour, apparently springing from the left ventricular band. I removed some portions of it and Dr. Heneage Gibbes kindly examined them, and found that the growth was an epithelioma. Dr. Semon, who saw the patient with me, had, from the appearance of the growth, previously diagnosed its malignant nature. As there was no evidence of any glandular infection, and as the disease was distinctly limited to the left half of the larynx, the patient was advised to have resection of the larynx performed. This he refused, and I have since heard that he applied at the Hospital for Diseases of the Throat, and the growth was removed with the forceps, very profuse hæmorrhage following the operation.

It will be a matter of great interest to watch the further course of the case. Up to the present there are two or three points worthy of attention. When I first examined the patient I was much struck by the small amount of inconvenience he experienced, though, as I have already stated,

the glottis was almost occluded by the growth; he had been constantly engaged in the laborious work of a gas-stoker; this is, of course, to be accounted for by the slow increase in size of the neoplasm, as the system gets accustomed to a gradual diminution in the amount of air entering the chest. Then his voice, though certainly hoarse, was wonderfully clear considering the state of the glottis. Finally, I would direct attention to the very slight local discomfort the patient experienced. While under treatment he had an attack of tonsillitis, which weakened him considerably, and as he was recovering from this it was noticed that he had an evening rise of temperature preceded by a rigor. On inquiry he stated that he had ague in India twenty years previously. This is a good instance of the manner in which the symptoms of ague reappear, often after many years, when the patient's health is below par from any cause.

In a paper I read before the Medical Society last session, I stated that in cases of aneurysm with pressure on the recurrent laryngeal nerve, I had found the left vocal cord most frequently in the cadaveric position, and further experience has been in favour of this view. I had one case, however, last year under treatment in the out-patient room, and though I had no opportunity of verifying the diagnosis by a post-mortem examination, the physical signs were so unmistakeable that I think they will suffice, even in the absence of an autopsy, to prove the existence of an intra-thoracic aneurysm.

G. C—, a stone sawyer, æt. 55, applied on June 10th, stating that up to eight months ago he had never had a day's illness, but since that time he had been unable to work, suffering from great shortness of breath. He complained of having a feeling of something like a sponge in the throat, which prevents him breathing freely. He stated that he had a cough like the barking of a dog; his voice was only slightly hoarse. On making a laryngoscopic examination the vocal cords were seen to move freely, but the left less than the right; they were both congested and thickened. There was an absence of respiratory excursions of the larynx. Examining the chest impaired resonance on percussion was found over the sternum opposite the third interspace, and a

double murmur was heard here. There was deficient entry of air over chest; the breathing was attended with a tracheal stridor, and there was some sibilus. The pulse in the two radials was equal, of a locomotive character. The pupils were equal. The urine was of sp. gr. 1009, and contained a trace of albumen. There was no history of syphilis. He was ordered iodide and bromide of potassium, and, as usual, improved considerably. The iodide was gradually increased to fifteen grains three times a day, and, after taking it for two months he said that he felt very much better. On August 5th I have a note that the left vocal cord is not so completely abducted as the right, and the percussion note, which at first was only impaired across the upper part of the sternum, is now dull. The patient died suddenly on September 6th.

In this case I had the opportunity of observing some of the changes which occur as the result of pressure on the left recurrent; at first from commencing paralysis of the abductor muscle the cord is less vigorous in its movements, later on, all power of abduction ceases, and the cord is found in the middle line; still later, the adductor muscles are implicated, and the cord will be seen motionless in the cadaveric position.

G. C—, æt. 60, at one time engaged in a circus, afforded a good example of aneurysm of the arch of the aorta. There was nothing unusual to be noted in the physical signs, and the left vocal cord was found to be in the cadaveric position. The only point worth mentioning is the statement he made that his voice suddenly left him. He had had a very powerful voice, and could roar like a lion; now the voice is hoarse and feeble. While under observation the voice was noticed to get somewhat clearer, and it was found, on making a laryngoscopic examination, that though the left vocal cord remained immobile there was compensatory action of the right cord, which crossed the median line so as to approximate nearer to the left, hence the improvement in the voice. The patient died suddenly from rupture of the aneurysm into the œsophagus.

Last year I mentioned the good results I had obtained from the use of a ten-grain solution of chromic acid applied

locally. I am still very satisfied with its action; if the ulcerated surface is extensive I have applied a solution of cocain before using the chromic acid, and this has diminished the pain produced by the latter. Another therapeutic memorandum from my note-book may serve to mitigate one of the causes of suffering in laryngeal phthisis, viz. the dysphagia which so often comes on in the course of this disease. A patient, who had been under my care for several months suffering from marked laryngeal and pulmonary phthisis, complained of extreme difficulty in swallowing, and on laryngoscopic examination great swelling of the right arytenoid cartilage was seen. I ordered him to take, ten minutes before meals, an effervescing lozenge containing chlorate of potash, borax, and one sixth of a grain of cocain. On his next visit he told me that he had experienced great and immediate relief from the lozenges, and that after allowing one to dissolve in the mouth he could swallow readily. I have seen the same result in other cases. Any means of relieving the miseries undergone by patients suffering from this terrible affliction is worthy of record.

The best way of applying cocain to the larynx in these cases is to spray the mucous membrane with a 10 per cent. solution.

In the 'Lancet' for November 21st, 1885, I mentioned a case of spasm of the glottis produced by the use of cocain spray in the removal of nasal polypi. A second though much less severe case happened in the out-patient room; in both instances the spasm seemed to be produced only when the solution reached the larynx.

A case of a growth of the size of a pea from the uvula, which was removed by the galvano-caustic loop, may serve to direct attention to the facility with which any operative procedure on the uvula may be carried out after the part has been painted with cocain; uvulatomy is also rendered easier, and there is less discomfort afterwards if cocain is used, but the constringent effect of the drug must be borne in mind, otherwise too little of the uvula may be removed.

A woman, æt. 31, applied on December 9th, and stated that she had been shivering on and off for two or three days, that since last night she had been unable to swallow, and

had had a choking sensation. There was great œdema of the uvula and a little swelling and redness of left tonsil. Here the brunt of the inflammation, as sometimes happens, seemed to have fallen on the uvula, the pharynx being only very slightly affected.

Among the most troublesome class of patients I have had have been five cases of neuralgia occurring in patients, all women, and depending on some nose trouble.

Case 1.—A woman, æt. 58, stated that since a fall on her nose four or five years ago she had suffered from pain in the nose, which is getting worse, and there is a watery discharge from both nostrils. On examination the only thing that I could detect at all amiss was that the septum was displaced to the right. She was put on various nervine tonics such as quinine, arsenic, valerianate of zinc, but she derived most benefit from the local application of camphor-chloral.

Case 2.—A woman, æt. 49, applied in April, and said that at the commencement of the year she knocked her nose against a chair. Since then she has felt a pain and tightness in the nose with a difficulty of breathing through the nostrils. Previous to her accident she had never felt anything wrong with the nose. A simple alkaline solution to wash out the nostrils and quinine were at first ordered, but as she did not improve the galvano-cautery was freely applied to the middle turbinated bone after the mucous membrane had been painted with a 20 per cent. solution of cocain. Result satisfactory.

Case 3.—A woman, æt. 60, came complaining of pain across the temples and a disagreeable smell in the nose. The mucous membrane covering the right middle turbinated bone and the left inferior turbinated bone was found to be much hypertrophied. This case was treated similarly to the last; one result of the galvano-cautery was that whereas there had been no secretion from the nasal mucous membrane for three years and four months, free discharge was set up which gave great relief to her symptoms. There was also a marked improvement in the condition of the mucous membrane.

Case 4.—A woman, æt. 46, came complaining of an offensive discharge from the nose and severe pain over left

eye. Her complaint dated from a blow over the left eye three years ago. Soon after the blow the discharge from the nose began, and she has had more or less pain in left side of head since. A small mucous polypus was discovered in the left nostril; this was removed and the base cauterised with the flat blade of the galvano-cautery. As this did not free her entirely from pain camphor-chloral was ordered to be applied to the painful region, and this gave relief, though after a time a considerable amount of erythema was caused by the application.

Case 5.—A woman about 25 years of age applied in April, stating that in November she had diphtheria; since then she had had difficulty in breathing through the nose, but not accompanied with discharge; she had also suffered much from neuralgic pain across the nose. There was great hypertrophy of the mucous membrane of the nose; fluid could be made to pass up the right nostril, but not up the left. The effect of a simple alkaline douche was tried at first, but as this had no effect the galvano-cautery was freely applied to the mucous membrane in both nostrils. In this case three applications of the galvano-cautery were required on each side, but thanks to the use of cocain previous to the cauterising the patient did not experience any pain, and was discharged from treatment practically well.

I have narrated these five cases at some little length as they belong to a group of cases which are often exceedingly intractable to treatment; in fact until the introduction of the galvano-cautery, or I might even say until the discovery of the local anæsthetic action of cocain rendered possible the free use of the cautery, these cases derived little or no benefit from the treatment then in vogue. Hack, of Freiburg, deserves well of the community for directing attention to the frequency with which various nervous affections are connected with changes in the mucous membrane of the nose and the good effect which results from the use of the galvano-cautery in these cases. As regards the manner in which the cautery should be applied two methods may be recommended. After previously painting the mucous membrane with a 20 per cent. solution of cocain and waiting five to ten minutes and making a second application if the

surface of the mucous membrane is not anæsthetic, a fine-pointed galvano-cautery may be heated to a dull red heat, and the mucous membrane stippled with it, or in more severe cases a flat blade may be drawn along the surface so as to make a deep furrow in the mucous membrane. If the cocain solution is good and it has been properly applied, the patient usually experiences very little discomfort at the time; of course there is a certain amount of soreness caused by the burning, but a little cold cream or vaseline readily mollifies this.

NOTES

ON THE

DIAGNOSIS AND TREATMENT OF PRIMARY SYPHILIS.

By THOMAS BOND.

Mr. JOHN SIMON in a report to the Local Government Board stated some few years ago that syphilitic disease in London had materially abated both in frequency and severity.

My experience of the out-patient department at Westminster Hospital leads me to a different conclusion. No doubt the more terrible sequelæ of syphilis are not so frequent as formerly, but that is accounted for from a more general knowledge of the disease and an improvement in the treatment. With regard to the frequency of the disease, I find that about one fourth of the patients presenting themselves for treatment on my days suffer from syphilis or some of the sequelæ; and it is a noteworthy fact that a large percentage of the cases occur among the wives and children of the artisan class. Comparatively few prostitutes are treated; they usually go to the Lock Hospitals.

It is, however, an undoubted fact that syphilis is a widely spread disease among the lower and working classes in London, and it is probable that the repeal of the Contagious Diseases Act (which has worked so beneficially in the large military centres) will be followed by an alarming increase of this disease. The opponents of the Act argued that the

periodical examinations of women did not prevent the spread of the disease, as in many cases it was impossible to detect it when present. The argument is fallacious, although the fact is partly true; gonorrhœa and simple venereal ulcers which do not produce specific constitutional symptoms are easily recognised, and the recipients of those diseases apply early for treatment in consequence of the pain and inconvenience therefrom.

On the other hand, the incidence of syphilis is much slower, and the earlier local symptoms are of a less severe character; it is true, too, that both with men and women little or no inconvenience may be felt for the first few weeks, and often no treatment is sought until the secondary symptoms (viz. the sore-throat and skin eruptions) are fully developed. In this stage there will rarely be any difficulty about diagnosis; it is in the primary lesion that the difficulty occurs; in some of the later sequelæ the syphilitic taint may be overlooked, and indeed the only physiological ground on which the opponents of periodical examination of prostitutes can reasonably base their objection of inutility, is in the case of syphilitic discharge from the vagina and urethra, which of course is difficult to recognise, and no doubt is often capable of propagating syphilis even after several years.

I remember treating a case of syphilitic ulcer of the tongue, accompanied by obstinate urethral discharge, which the patient said had existed since he caught the disease three or four years previously. He continued under my care off and on for several years, and about ten years after the primary sore he married. About two months after his marriage he brought his wife to me with a primary syphilitic sore, which was followed by a terrible array of syphilitic sequelæ, including several miscarriages and syphilitic children. During all this time the husband suffered from nothing beyond the sore tongue and an occasional increase of the discharge. This is an instructive case as showing for how long a period the syphilitic taint may remain capable of reproducing the disease in a healthy subject.

With regard to the diagnosis of the initial lesion there is often a difficulty in pronouncing a definite opinion, and a good many divergent views have been expressed.

It has been alleged that constitutional syphilis may occur without any initial lesion. This is a mistake; there is always a primary sore of some sort at the point of inoculation; it is not always easy to find the place, and, when found, the lesion is not always recognised. No doubt in many cases before the secondary symptoms present themselves the primary lesion has healed spontaneously without being discovered; we find many such cases in the out-patient department among the women. Again, it has been said that the same virus is productive of the various venereal diseases, including syphilis and all the forms of non-infecting sores. Others say that the latter are produced by the syphilitic virus in an attenuated form. My experience leads me to an entirely different conclusion from these various theories, and I am a firm adherent of what is called the dual theory of venereal disease, viz. that syphilis can only be produced from pre-existing syphilis, and that all other local sores which are not syphilitic are derived from a distinct virus which will not produce syphilis and is not produced by syphilis.

The common distinction in nomenclature between the syphilitic and the simple venereal ulcers is to call the former hard chancre and the latter soft. This is very pretty in theory, but in practice it is not a reliable distinction; the term is often misleading and does not sufficiently differentiate the character of the two diseases. I am accustomed to apply the term "primary syphilitic sore" to all the initiatory lesions of syphilis, and the term "simple venereal ulcer" to non-constitutional infecting sores.

The typical character of a primary syphilitic sore is a small raised tubercle occurring on the mucous membrane or at the junction of the skin and mucous membrane. There is no suppuration, but the surface gradually extends, and it appears like an abrasion and congestion of the mucous membrane on a raised base. The surface of the sore is smooth and red, and secretes a scanty, viscid, serous discharge; the base is hard and rounded, and appears as if the sore were set on a shallow cup of cartilage; it is almost painless.

This description applies to a primary uncomplicated sore on or near the mucous membrane; but when it occurs on the

external surface of the body, especially where there is not much subcutaneous cellular tissue or where the skin is stretched over a bony projection, the sore presents a flat surface with no induration whatever, appearing like a rounded velvety patch of abraded cuticle of a vivid red colour and very vascular. This appearance is often seen at the root of the penis, and occasionally on the back of the hands and fingers. Again, the same soft velvety sore is found on the top of the glans penis where it is habitually uncovered by the prepuce, and also on the os uteri in women.

Starting from the above-described forms of sore, we find all sorts of accidental complications.

1st. From want of cleanliness or from irritation, the surface of the sore ulcerates, generally beginning in the middle and extending outwards; the sore then becomes depressed in the centre, and the edges are rounded and rather raised and hard, extending into the cup-shaped disk.

2nd. A common complication is the occurrence of acute inflammation accompanied by great pain and swelling; this is generally produced by irritating applications. The surface of the sore suppurates freely, and the surrounding tissues become very œdematous, often completely masking the primary induration, and indeed when the sore is on or near the glans penis it is frequently completely hidden under the prepuce, which is in a state of extreme tension and covers the glans, causing severe phimosis.

3rd. A large suppurating cavity may occur; this is generally caused by the free application of nitrate of silver, nitric acid, or sulphate of copper. The out-patients are very fond of using this latter application to all sores on the penis before coming to the hospital. This renders the diagnosis extremely difficult, as the whole of the original sore and indurated tissue quickly ulcerates away, leaving a deep cavity, the edges ragged and more or less indurated by inflammatory exudation.

4th. A fortunately uncommon complication is sloughing phagedæna; this may attack a syphilitic sore and quickly destroy all the surrounding parts, so that the diagnosis of what may have been the primary lesion is impossible. The parts around the sore suddenly swell and become intensely red and

congested, the edges of the sore get dry and livid and black and gangrenous; the sloughs separate in about forty-eight hours, but the gangrene has a tendency to spread. I remember a case in the out-patient department where all the external parts of generation were destroyed in a few days, and in another case which was under my care when Surgeon to the Lock Hospital of St. George's Infirmary the sloughing spread to the abdominal walls and the viscera burst out of the wound before the woman died.

In my out-patient practice I endeavour to impress on my class the old adage that "fools rush in where angels fear to tread," and to apply it in diagnosing syphilitic sores, for we find that the uncomplicated primary sore is comparatively rare. Therefore, I recommend great caution in expressing an opinion on those sores, and still greater caution in commencing a mercurial course till the diagnosis can be confirmed by collateral symptoms.

The typical sore which I have described is usually accompanied by enlargement of the nearest lymphatics, especially along the dorsum of the penis and by the induration of the glands in the groin. In syphilis this induration has well-marked and peculiar characters, and it is quite different from the enlargement following a strain or from the commencement of a sympathetic bubo.

Three or four glands are usually affected, but one is generally considerably larger than the others. Often both sides are affected, and in some cases the glands on the opposite side to the sore are the only ones enlarged. They are hard to the touch and freely movable under the skin, with rather a nodulated outline. The skin is not thickened nor inflamed and there is no pain; in fact they have been called nutmeg glands from their shape and hardness. They do not suppurate nor attain any great size except from inflammation of the primary sore; then the skin and subcutaneous cellular tissue may become inflamed and infiltrated and a sympathetic bubo forms. Again in cases of constitutional debility and anæmia a huge brawny swelling may occur.

When the primary sore is flat and not indurated, especially when occurring in the skin, the disease is often not recognised till the secondaries appear, but the enlargement

of the neighbouring glands and lymphatics and the smooth and circular sore ought to prevent mistakes. On the os uteri the sore causes no symptoms of pain or inconvenience except a slight purulent discharge from the vagina, and in nineteen cases out of twenty it is not discovered until the secondary symptoms appear. It looks like a velvety abraded patch, generally affecting one side only of the os. The lymphatic glands in the groin are not usually affected, and the sore is so protected from irritation that it rarely inflames and is often healed before the syphilitic disease is discovered. Even when seen it is with difficulty diagnosed from the ordinary ulceration of the os; the vivid red colour, the circular and well-defined edge and its situation on one side of the os and not around it are the chief points of difference.

Simple venereal ulcers when situated on the frænum or on a fold of mucous membrane often look very like ulcerating syphilitic sores in consequence of a certain amount of induration caused by friction and continual movement. Again, when caustics have been applied to a soft sore some induration may take place, but it is softer and more œdematous than in a syphilitic sore. The character of the swelling in the groin is also different; a single gland on each side only is enlarged, the cellular tissue and skin around is infiltrated, tender, and inflamed, and the gland fixed and immovable. It rapidly softens and suppurates.

The history of the sore, if its truth can be depended upon, will assist in the diagnosis between syphilitic and non-syphilitic sores. The former has an incubating stage varying from three weeks to two months, while the latter usually appears within three days or a week of the connection, but the two diseases may undoubtedly coexist in the same individual, and even in the same sore. I have often called attention to such cases in the out-patient department. One case I will relate: A man applied with two or three simple venereal ulcers around the corona of the penis. The surfaces of the sores were spongy looking and undermined with ulceration, tawny in colour and sloughy, the edges ragged and free from induration, and the discharge yellow and abundant. After three or four weeks of local treatment with iodoform and lead lotion, one of the sores gradually

became indurated and the others healed. The tawny sloughy colour disappeared, the surface of the sore became raised and red, and the edges became rounded and hardened. The lymphatic glands, which had not been before affected, became indurated in the usual way, and secondary symptoms shortly appeared.

This man may have contracted the two diseases from different women, but a syphilitic woman with purulent discharges and ulceration may in my opinion convey the two diseases simultaneously.

With regard to sloughing ulcers and phagedæna I know of no reliable signs which will settle the diagnosis between syphilis and non-syphilis. This, luckily, is not a matter of great importance in the early stages as the grave danger in those cases occurs from the local destruction of parts and from the acute constitutional disturbance. Even if the primary lesion be syphilitic treatment by mercury would be counter-indicated, and in consequence of the profuse discharges the syphilitic sequlæ are postponed to a very late period and the ordinary sequelæ are omitted altogether. I have never found syphilitic maculæ or squamous or mucous syphilide directly following sloughing phagedæna, but eight or nine months after the commencement of the disease tubercular or rupial sores appear; again the greater the destruction of the local parts the less is the probability of bubo. The small ulcerating sores are followed by the largest suppurating bubos; in fact it may be said that the chance of a bubo coming is in inverse proportion to the severity of the local sore.

In the treatment of syphilis there are three or four main points which I endeavour to impress on students:

1. That mercury should not be given till the specific nature of the disease is diagnosed.

2. That syphilis should always be treated with mercury.

3. That when the mercurial treatment is commenced it should, if possible, be steadily continued for at least twelve months.

4. That the great aim of the surgeon should be to administer the mercurial treatment in such form and dose as not to produce salivation nor impair the general health.

During the continuance of the local sore it is unnecessary

to give mercury by the mouth. The dusting of dry calomel over the sore is in most cases the best application. This combines local and constitutional treatment as no doubt some absorption takes place, but this of course must vary according to the size and character of the sore.

It is generally useful to supplement this by mercurial inunction applied either to the enlarged glands or to the flexures of the thighs or crease of the arms. It must be remembered, however, that while there is no danger of salivation from the free external use of calomel there is very great danger of salivation from mercurial inunction, and often either from excess of zeal on the part of the patient or want of caution in the directions of the surgeon I have seen severe salivation produced. As a general rule calomel should be applied to a moist surface such as primary sores and mucous tubercles, while mercurial ointment should only be used for inunction into the skin or to the dry squamous or tubercular syphilide.

Iodide of potassium is useless as a curative agent in primary syphilis, but it may sometimes be usefully combined with mercury in this stage. It lessens the severity of the syphilitic fever which comes on a few days before the roseola eruption comes out. It modifies also the severity of the eruption, and, if given from the commencement of the disease, no doubt postpones considerably the advent of the secondary eruptions. For this very reason it should not be given when there is the slightest doubt about diagnosis, and even if the surgeon is confident that he is dealing with a syphilitic sore, the patient is apt to consider his disease perfectly cured if the local sore heal without any throat or skin complications, and, notwithstanding the warning of the surgeon, discontinues all treatment.

The question of excising a primary sore, or treating it with strong nitric acid, sometimes arises. Thus, if after a single connection a patient apply within a week or two with a suspicious-looking sore, some surgeons recommend its complete removal or destruction. I have never found any benefit from this plan of treatment, and believe it is counter-indicated by our knowledge of the pathology of the disease. We are pretty well agreed that the syphilitic bacillus is the

active agent in the production of all the phenomena of syphilis. At first it is, no doubt, a local disease. The infecting bacillus lodges in a fold of mucous membrane or integument and there finds a pabulum for its cultivation. The bacilli then, no doubt, invade the neighbouring tissues, and are then soon passed on by the lymphatics. When once the lymphatics have set to work all local treatment must be useless, and by the time a local sore is produced the disease has, in my opinion, passed on; thus I am inclined to believe that a primary syphilitic sore is the local manifestation of constitutional disease. In the ulcerative and suppurative complications of primary syphilis we have now a most valuable agent in iodoform; in fact this drug has superseded all old applications, such as lead and zinc lotions, caustic, &c. In suppurating syphilitic sores it may conveniently be mixed with calomel in equal parts, or it may be made into an unguent with vaseline, strength one drachm to the ounce. This to a certain extent disguises the strong smell, and is a very convenient mode of application.

In cases of anæmia and great debility I prefer to give mercury by the mouth, in combination with iron, and find the Pulv. Hyd. c̄ Creta, with Ferrum Redactum, the best form. It is more conveniently administered in pills.

The following is a very good formula:

℞ Pulv. Hyd. c̄ Creta, gr. j,
Ferri Redacti, gr. j,
Ext. Taraxaci, gr. j.
Ft. Pil.—One pill three times daily, with meals.

This hardly ever produces salivation, nor does it upset the stomach and bowels in any way. I have seen patients take the pills for many months, and keep in good health or even improve during the whole time. The iron appears to prevent the anæmia which the long-continued administration of mercury is apt to produce. I never give the bichloride nor the old-fashioned Plummer's pill—the subchloride—during the primary stage; nothing likely to upset or irritate the intestinal canal should be given. The main point is to keep the blood saturated with mercury in the form which the system is least likely to resent.

SOME ANOMALOUS SYMPTOMS;

THEIR SIGNIFICANCE AND TREATMENT.

A CLINICAL LECTURE IN THE OUT-DOOR DEPARTMENT.

By Dr. A. HUGHES BENNETT.

Gentlemen,—I propose to direct your attention this afternoon, not to any well-recognised or special disease, but to a group of symptoms to which the term anomalous may provisionally be applied. By this expression I understand the series of indefinite and unclassified complaints which are so commonly made by patients of every rank of life, and suffering from almost every form of disease, yet the true nature of which is frequently misunderstood and misinterpreted. Among the great number of persons who daily apply for relief at the out-patient departments of this and other hospitals you must have observed how large a proportion, while apparently free from any discoverable morbid lesion, bitterly complain of a variety of pains, peculiar sensations, and other discomforting and distressing ailments. These complaints are moreover usually described in such indefinite, confused, and exaggerated language as, in the total absence of any objective or physical abnormalities, greatly adds to the difficulty of estimating their true value, and even suggests the possibility of their being due to imagination or wilful deception. Although such ailments are not associated with discoverable tissue change, and

although a narration of their details may be hyperbolically expressed, they are on that account none the less genuine, nor do they less serve to embitter the life of the patient. These circumstances, added to the extreme prevalence of the phenomena in question, demand that a careful inquiry be made into their true worth, so that they may not on the one hand be overlooked as trifling, and as the result of fancy or invention, or on the other be awarded undue prominence and magnified into, and confused with, graver maladies. My object at present is to enumerate and demonstrate the chief of these so-called anomalous symptoms as they occur in the patients who come before us, to endeavour to estimate their true significance, and finally, as a result of these inquiries, to arrive at a rational method of treatment.

Symptoms.—As has already been stated, a large proportion of patients of all classes and conditions of life, while the most careful physical examination fails to discover any objective trace of disease, complain in the most forcible terms of a variety of painful and distressing subjective sensations. Take, for example, this young woman who is an illustrative type of a large class. She is pale, thin, with an anxious and depressed physiognomy. She is a sempstress, has to support herself and her mother, and for this purpose has to work with her needle twelve hours out of the twenty-four, for a daily remuneration of two shillings, in a badly-ventilated room containing twenty girls. When asked what she complains of, she says she is languid in body, depressed, and nervous. She has a pain under her left breast, in the small of her back, and on the top of her head. She has uneasy sensations and peculiar feelings in different parts of her body. She has a dull aching in her epigastrium, has no appetite, feels sick and sometimes vomits her food. She suffers from depression of spirits, insomnia, palpitations, tremblings, and irregular menstruation. All these ailments are, in the language of the patient, "terrible," "fearful," "dreadful," the pains are "excruciating," she "never eats a morsal," yet she "vomits every mouthful of food," she "cannot move a step," "does not get a wink of sleep," and so on. On physical examination all the organs of the body are found healthy. Although these complaints are thus expressed in fanciful and

exaggerated terms, it must not be assumed that there is nothing the matter with this girl, or that she is feigning a malady; on the contrary, she is a great sufferer, and her hyperbolical description is in reality a part of the general nervous impressionability and instability with which she is afflicted. To look with contempt on such a case only because no gross lesion can be detected, and because the clinical picture does not correspond to any classical form of disease, would be not only inhuman but also unscientific. To say that the symptoms are imaginary is not only erroneous, but would be no explanation; for if they were, that in itself would constitute disease, seeing that to believe a pain exists is much the same as if it were in reality present. If this woman is not the subject of organic disease, or anything which actually shortens life, she is none the less an object for pity, being the victim of a disorder which, if long continued and severe, will render her existence unendurable.

You must have observed how very common this group of symptoms, more or less modified in different instances, is amongst the poor classes we meet with in hospital out-patients. Precisely the same occurs, and even to a greater extent, in private practice amongst the upper ranks of society. Women are much more liable to this condition than men, although the latter are by no means exempt. Usually the symptoms are associated with a feeble state of body, but not necessarily so. If the physique be robust, mental perturbation is certain to be at the root of the evil.

The phenomena exhibited are by no means easy to analyse or classify. I shall therefore only attempt to enumerate the leading symptoms, giving them as nearly as possible in the order of frequency in which they occur. These are: 1. General nervousness, which includes various indefinable sensations, impressionability, irritability, hyperexcitability, &c. 2. Physical and mental languor. 3. Pain under the left breast. 4. Pain in the lumbar region. 5. Pain on the vertex capitis. 6. Palpitations. 7. Loss of appetite, accompanied with an uneasy sensation in the epigastrium, sickness, flatulence, and irregular bowels. 8. Irregular menstruation. 9. Paræsthesiæ of various kinds, creepings, numbness, giddiness, shooting pains, noises in ears, muscæ volitantes,

&c. 10. Tremblings, twitchings, spasms, and other minor modifications of motility. 11. Depression of spirits.

These profess to be only a rough enumeration, for convenience, of the more common symptoms observed in this type of case, and all who have had to deal with suffering humanity must recognise how universally spread are most of the phenomena alluded to. All of them may exist in the same individual in varying degrees of severity and order of occurrence. In other instances one or more only are present, some being more prominently marked than others. The universality of these complaints, definite in themselves, but apparently disassociated with one another, shows their genuine nature, and seems to indicate that there is some single factor in their common production, rather than that each is due to disorder of any special organ with which it superficially appears to be connected. The elucidation of this point is of the utmost importance when the question of treatment comes to be considered, as it is then necessary to know whether the series of complaints are the secondary symptoms of a general disorder, or whether they are due to primary disease of special organs. On this subject I believe much misconception prevails, and, as a result, treatment is unsatisfactory. A proper interpretation of the facts is therefore of the greatest practical importance.

Significance of the symptoms.—It is here contended that the series of phenomena under consideration, and which have been above enumerated, are not due to primary disease of any special organ or organs of the body, but that they are the outward manifestations of, and are secondary to, a general depressed condition of the nervous system. To the neurological expert the sequence of sensory, motor, and functional derangements which have been noted in the cases before us are precisely those he would expect to find resulting from functional debility of the central nervous apparatus. The series of sensory abnormalities, for example, the pains in different directions, paroxysmal in character, the hyperæsthesiæ, the excitability, the parasthesiæ, and so on, is what analogy and a study of the more serious diseases of the nerve-structures enable us to declare may follow any circumstances which lower the vital activity of the sen-

sory centres. Why these pains should prefer special seats, such as the left breast, the small of the back, and the top of the head we do not know. The fundamental facts remain, and these neuralgias are probably confined chiefly to the nerves of the skin or at most to the muscles and ligaments in the neighbourhood of the painful parts. There is no evidence whatever to show that the suffering is due to any inflammatory or other local disease of the organs which seem to be near the seat of suffering, namely, the stomach or heart, the uterus and the brain. These organs are, under the circumstances, as a rule, structurally healthy. The pains in their neighbourhood are simply the external manifestations, according to well-recognised neurological laws, at different portions of the periphery, of irritability of the sensory centres. There is no necessary connection between the organ and the pain in its vicinity, and there is not even any proof that the latter is seated in the substance of the former.

As with the sensory so with the motor system; and it is maintained that the muscular feebleness, the tremors, spasms, palpitations, faintings, and so on, whether general or local, are due, not to primary disorder of the organ seemingly affected, but are secondary to depression of the motor centres or tracts. The same argument applies to disordered functions; the giddiness, pulsations, sickness, irregular menstruation, &c., not being of necessity the result of primary disease of the special mechanisms associated with these processes. These, on the contrary, are generally conspicuous by their freedom from morbid lesion. The abnormal phenomena are simply the outcome of unhealthy innervations from an impaired and debilitated nervous system.

The lesson to be derived from these reflections is that, given a disordered function, in short, one of the anomalous symptoms in the cases under notice, treatment is to be directed to a general rather than to a local cause. Unfortunately this view of the situation is not always taken, much to the disadvantage of the patient. As an illustration, here is a woman of thirty, presenting in its most typical form all the various characters of the malady we are discussing. General mental and physical languor, headache, pains in different directions, emotional character, and so on. Among

other things she suffers from irregular menstruation, pains in the back, a leucorrhœal discharge, and she has, moreover, a very slight anteflexion of the uterus. This woman has for some years past been under gynæcological treatment which has been confined to local manipulative processes to correct the slightly twisted uterus, local injections for the discharge, and medicine to regulate the catamenia. The sequel of this, as might have been expected, has been absolute failure. Had another view been taken of this case, had it been treated upon general principles, and the local phenomena left to themselves, it is probable this woman would have been well in all respects many years ago. In short, there is no real uterine disease whatever, but the organ participates with all the other tissues of the body in being physiologically inactive.

Take another example. Here is another young woman belonging to the same type. She has for long suffered from pain under the left breast, an uneasy sensation in the epigastrium sometimes aggravated by food, frequent sickness, loss of appetite, flatulence, constipated bowels. For months she has been treated by a physician for dyspepsia, her diet has been greatly curtailed and numerous nourishing articles of diet forbidden. She has consumed gallons of medicine with the view of improving the coats of the stomach, of assisting digestion, and of dispersing the wind. The result has been absolutely nil. The probability is that the stomach of this woman is perfectly healthy in structure, but, like her legs and arms and the rest of her body, is functionally inactive. This entire condition might have been cured by fresh air, exercise, and a generous diet, instead of which measures directed solely to the mucous membrane of the stomach and its secretions proved absolutely futile.

These two examples serve to point out the dangers of taking a too narrow and special view of the practice of medicine. That specialisation has certain advantages cannot be gainsaid, especially when particular manipulative dexterity is concerned, but these instances show how imperfect and unsatisfactory is the too limited practice of the gynæcologist or stomach doctor. No one will deny the frequent existence of diseases of the uterus on the one hand and of the gastric

organ on the other, but what is here maintained is that there is a vast number of cases where mere symptoms are treated by specialists as primary diseases of these organs, the disorders being in reality secondary to a more general neurosis. Incalculable mischief as a consequence results to the patient, who not only receives no benefit, but who, owing to the moral and physical degradation of certain forms of special treatment, is thereby driven into a permanent invalid condition. It is probable that a majority of the functional uterine disorders of women which are treated usually by specialists, belong to the class of cases now under consideration rather than to local diseases of that organ. In the same way dyspepsia, in the true sense of the term, is a much rarer disease than is generally asserted, the stomach, of all organs of the body, being the best able to resent the ill-treatment it so constantly receives. Its disorders on the other hand are very common and probably secondary to a general debility of the constitution. Precisely the same reasoning applies to all the other symptoms here called anomalous as has been urged concerning the uterus and stomach, each of these, however varied and apparently disconnected from one another, having the same common origin.

We have finally to determine what are the causes of this primary nervous depression which leads to so diversified a train of symptoms. Briefly, these may be considered under three groups. In the first place there are those persons who inherit a weakly and neurotic constitution, who by nature are feeble and exhibit general want of tone and vigour. These are the produce of unhealthy parents, and their brothers and sisters probably present somewhat similar characters to themselves. This is the true nervous temperament and is accompanied in the most pronounced form with all the symptoms and neurotic manifestations under discussion, and as a result of ancestral imperfections constitutes the most obstinate type of the disease. The second group consists of those who under favorable circumstances would have been healthy people, but who, owing to exhausting illnesses, improper food, deficient exercise, or other unfortunate external surroundings, have become physically debilitated. As a result their nervous vigour has been impaired, and in consequence the usual train

of neurotic manifestations are developed. This class of patient is very common and is seen daily, notably amongst the lower classes and the poor who have to work hard for their living. In a third group of persons there is fairly good physical health and bodily vigour, but in whom nevertheless the same train of symptoms present themselves. In such cases it will always be found that anxiety, distress, or mental disturbance of some kind is the foundation of the maladies complained of. Such psychical agitations are as potent in the production of general nervous instability as are physical injuries. This form is more particularly noticed in the higher ranks of society, where over-education, eager competition, disappointed ambition, and other distressing emotions prey upon the intellect rendered hypersensitive by culture, and, through it, temporarily exhaust the system and thereby induce the usual sequelæ of nervous phenomena. Of each of these three types we daily see abundant examples in the out-patient room, and in your after-practice you will constantly meet with them in every condition and rank of life. In estimating the nature of the complaints made to you beware of taking a too narrowed view of the situation, otherwise the results of your treatment are likely to be abortive. To discover a sluggish liver, a gouty stomach, a congested womb, or derangement of some special organ is always a fascinating theory for the patient, who dislikes being told she inherits and is the subject of a constitutional weakness. Whether, however, ceding to these prejudices and acting accordingly is to her real advantage cannot be a matter of doubt.

Treatment.—If the preceding considerations be sound the treatment of the anomalous symptoms and the patients who suffer from them becomes a question of common sense. This must be directed rather to improving the general nervous debility than to paying special attention to the individual symptoms or particular organs which are apparently involved. For this purpose our sheet anchors must be fresh air, good food, physical exercise, intellectual occupation, and mental contentment. Unfortunately in practice the circumstances which cause and perpetuate the disorders are just those which cannot easily be remedied, and the physician often feels in consequence his impotence to relieve. A man, for example, with

a wife and family to support, has an indifferent situation, is over-worked, badly fed, constantly overwhelmed with business anxieties and domestic troubles; with him, as the circumstances cannot be altered, a remedy for the nervous manifestations which may ensue is difficult to obtain. The same applies to a woman in the same rank of life with a drunken husband, sick children, and an exacting landlord. Even when the comforts of life are everything that can be desired, the same neurotic conditions may arise from intellectual exhaustion or mental distress. This is notably apparent in the over-educated young women of the present day, who often present typical specimens of the nervous constitution. The same may follow prolonged sorrow or acute grief. Although it may be difficult or impossible to entirely remove the causes which are mainly instrumental in producing the symptoms, the treatment must consist in doing for each particular case all that is possible in that direction. In inherited cases the whole education of the child and subsequent life of the individual should, when practicable, be directed towards building up the general health and avoiding that fostering of the nervous susceptibilities which is eminently the result of modern urban life. Vigorous physical exercise is the best outlet for all nervous outbreaks, and this moreover leads to improvement of the appetite and of sleep and to invigorating the system generally. Country air and habits are obviously to be preferred to those of town; where this cannot be altered the best possible must be done with the aid of tonics, cod-liver oil, arsenic, iron, and strychnine. It is scarcely necessary to urge the necessity of good food, well-regulated ventilation, other healthy hygienic surroundings, and last but not least judicious mental and moral influences.

With those persons who have acquired the disorder as the result of over-work and under-feeding, the remedy is obvious. A holiday, generous diet, and recreation, will effect more in a few weeks than gallons of drugs introduced into the stomach, prolonged manipulations or local applications to special organs will do in as many years. Finally, in the third class, in which the symptoms are due to psychical disturbance, relief is more difficult to obtain owing to the impossibility of

removing the direct cause. It has never been easy to "minister to a mind diseased," or to "pluck from the memory a rooted sorrow." At the same time when it is recognised that this mental distress is the main factor in the production of the symptom, the task is simplified, and with judgment and time much may be effected. Change of scene, travelling, congenial society, new interests and fresh occupations must each be utilised according to circumstances to aid in distracting the mind and bringing it into a more healthy condition. When this is effected the bodily sufferings for the most part may be left to themselves.

The local manifestations or special symptoms when severe may demand particular treatment, but as a rule this should be exceptional. Pain, if acute, may require sedatives, temporary faintness or nervousness may be improved by occasional stimulants, constipated bowels by aperients, and so on. These, however, should be avoided as much as possible, otherwise the patient may drift into an opium eater, or a confirmed drunkard, much to their own misery and that of their friends. Special attention directed to particular organs, such as the stomach, the heart, or uterus, not only delays recovery by the necessary processes thereby involved, depriving the body of healthy surroundings, but also does further harm by fostering hypochondriacal and morbid habits of mind. Vigorous and judicious measures applied to the general nervous diathesis will under favorable circumstances be successful in dissipating all the local manifestations without the special and often injurious means so frequently adopted for their treatment.

When the malady has become chronic and severe the above methods of treatment may be inapplicable, owing to the excessive debility of the patients, which prevents their taking exercise without fatigue, and interferes with the digestion of food. In such extreme cases, while the same principles are kept in view, complete rest must be at first enjoined, and with this must be maintained the full nourishment of the patient. In order to counteract the evils of inaction and over-feeding, exercise must be artificially supplied, and this may be effected by means of massage. This simply consists of the rubbing and kneading the skin

and muscles by another person, so as to ensure a brisk circulation and rapid contraction without effort on the part of the invalid. In this way an individual too weak to take sufficient natural exercise for health is thus supplied with muscular activity without fatigue; this enables them to digest large quantities of nourishing food, which in turn renovates their exhausted and nervous tissues, and in consequence dissipates their neurotic symptoms. Under this *régime* it is astonishing how persons of this type put on flesh and get rid of their sufferings. In illustration of this I may cite a case which has recently been under my care in the wards of the Westminster Hospital. A young woman for years had been weak and ailing. Although five feet seven inches in height she only weighed six stones, and was very much emaciated, pale, and delicate looking, and greatly depressed in spirits. She could scarcely walk, and suffered from a variety of neuralgic pains, which rendered her life intolerable, along with irregular menstruation and the usual train of symptoms under discussion, including loss of appetite and constant sickness. Without entering into details it may be stated that after a few days' rest in bed and feeding upon small quantities of milk, massage was begun, gradually at first, but increasing to two hours daily. With this the amount of food was gradually increased, till she consumed five full meals daily. At the end of eight weeks she had gained twenty-eight pounds in weight, her skin had assumed a healthy colour, she was cheerful in disposition, had a good appetite, and was soon able to walk several miles a day, and had lost all her neuralgic pains and other subjective symptoms. These were the main lines of treatment in this case, although other minor points were not neglected, such as daily faradism, moral encouragement, &c. The success in this case shows that even in those advanced invalids who are incapable of following out the ordinary rules of treatment, enforced rest, artificial exercise, and over-feeding not only restore their general health, but also as a direct consequence dissipate their abnormal nervous symptoms.

Whilst referring to massage it may be said that this seems to be becoming the fashionable remedy of the day, and there is a fear that in consequence it may on the one hand be over-

rated, and on the other soon sink into oblivion. Either of these contingencies would be unfortunate, as employed intelligently and prudently it is an agent for good. Long before the present outcry in its favour I had been in the habit of using it, doubtless along with many others, in cases such as are now being described, possibly, however, not giving to it the prominence which it now receives. The fact is that massage is no occult art, nor does it possess any mysterious properties. It is simply a means of avoiding some of the evils of enforced rest, by artificially kneading and working the muscles, and improving the circulation by means of friction. In such cases the elaborate massage as practised abroad, and which can only be performed by experts or medical men, is not necessary. On the other hand the old-fashioned medical rubbing of the Turkish bath or shampooer is not sufficient. What is required is a mean between the two, in which friction is vigorously and systematically applied to the skin, and kneading, crushing, and squeezing from below upwards to all the muscles of the body. This art can be learned in a very short time by most persons with intelligence and sufficient bodily vigour.

In the treatment of such cases other agents are useful as adjuvants, among which may be mentioned general faradism or galvanism, also the various nervine tonics. Finally, an important element in the management of all nervous cases is moral control, which demands great tact and judgment on the part of the physician, but which, when suitably exercised, is a potent factor in the successful treatment of persons who, owing to their malady, are notably susceptible and easily impressed for good or evil.

These remarks, gentlemen, do not exhaust all that might be said on this interesting and important subject, which is all the more so as it is one which must frequently come under the notice of each of you in your future practice. I have only attempted to give a brief sketch of the main principles which I believe should guide us in our method of estimating and treating that series of symptoms to which, for convenience, the name of anomalous has here provisionally been given, simply for want of a more precise and systematic nomenclature. To sum up, my contention has been that,

however varied and apparently local the symptomatic phenomena may be, they all take their origin in a common cause, namely, depression of the nervous system ; that this in turn may arise from many circumstances, physical and mental ; and that treatment should mainly be directed to the original cause of the manifestations, and not specially to the symptoms themselves.

MEDICAL STUDENTS AND CASE-TAKING.

By ARTHUR MARMADUKE SHEILD.

Most persons agree that the discussion of matters concerning medical education is perplexing and complicated. This arises not only from the intrinsic difficulty of the subjects considered, but also from the various opinions expressed by authorities of equal merit as to the best modes of procedure. Among the more difficult considerations that enter into the minds of medical and surgical teachers is the subject of "case-taking" as it is termed. How it is best to be performed? How students are best to be brought to do it? In what manner may the detail in writing of medical and surgical cases help the education of the student? These, and similar questions, must enter the mind of anyone who seriously considers the matter. He will find no easy task in answering them to the satisfaction of himself or others. The question, however, is such an important one that a few remarks upon it cannot be devoid of interest, and may be of utility.

I think no one will disagree with me when I say that the primary and great object of note-taking by students should be the furtherance and advance of their education. An addition to bulky manuscripts of cases of disease, to insecure statistical details, or to the private stores of written information of the teacher, is all very well in its way, but deserving of only secondary consideration. In the accurate observation and description of a case of disease, many of the more

important factors of a practical medical education are produced and exercised. In the first place the powers of observation are taxed. Secondly, accuracy both of observation and description is, if not obtained, at least aimed at. A student hesitates to write for the inspection of a critical teacher what he is uncertain about. Lastly, and this point is the most important of all, he has the opportunity—alas! how often neglected and allowed to lie fallow—of exercising his powers of reason on the phenomena he observes. That these are great and weighty considerations no one can dispute. Accordingly it is of interest to consider the method of taking cases at the present time, and see how far it aids or prevents the cause of true education. I do not propose to consider all the modes and methods in detail. Time, space, and want of inclination, forbid me to do so.

Broadly speaking, most schemes of case-taking are arranged on a uniform plan. On a printed paper is marked for the instruction of the student a number of tabulated headings, which he is required to fill up as best he may. Obeying the guidance afforded, the student commences with a long and rambling account of the least important, because most untrustworthy, of the matters to be considered—the history given by the patient—and ends with a brief consideration of the most important, the description and diagnosis of the disease. Now, all such methods have this fault in common, that under their direction the majority of students introduce a vast amount of matter which is quite irrelevant to the case under consideration. From this it follows that those very important symptoms that point like the fingers of a sign-post straight to the affection, are obscured and thrown into the shade, not only to the reader but also in the mind of the student. He entirely fails to grasp the symptoms which should represent the prominent bones of the skeleton of his discourse, upon which he supports the superstructure of detail. Hence that faculty of at once grasping the leading features of a case, so important to success in practice, is never sufficiently cultivated, too often never attained. A student describing a case of hydrocele after this cut-and-dried method, may give due prominence to the facts that the patient's mother died of dropsy, or

that the patient himself had suffered from smallpox in his youth. He quite keeps in the background, perhaps does not even mention, the shape of the scrotal swelling and its limitation from the abdominal cavity above. Also a tendency is created in the mind of the student to regard all specimens of disease of the same name as identical in symptoms and course. They lose sight of the infinite variety of disease, of constitutional peculiarities, and of the important fact that no two cases of the same affection display precisely the same phenomena. When we add to these objections the irksome nature of the task, the monotonous filling up of a number of unimportant details, we cannot be surprised that many students fail to observe the advantage of clerking, and shirk these duties whenever they can do so with impunity. The observation of a large number of cases of disease by one individual in a hurry has also its drawbacks. If merely certain queries have to be answered, or conditions fulfilled, the matter becomes as simple of performance as useless for reference. To properly relate a surgical or medical case, so that it is brief, to the point, accurate, vividly representing to the mind of the reader what its author observed, is a matter of no small labour and difficulty. If one individual has to busy himself with a large number of cases this becomes impossible. Hospital registrars, who perhaps have the largest experience in solving the problem of how to pass the greatest number of cases through their hands in the shortest time, will I am sure testify to the insufficiency of the records thus obtained. With students whose practice and opportunity is not so great the relation of the cases is still more unsatisfactory. Indeed, I believe that to allow a student to observe and relate a large number of cases in a slipshod or hurried manner not only fails to do him good but is also often a source of positive harm. It leads him into a careless and inaccurate habit of observing disease, and he throws away the most valuable period in his life for the cultivation and exercise of original powers. Such, I would contend, are some of the principal evils associated with the system of a tabulated scheme of note-taking.

I pass on to the consideration, and a very grave one it is, as to why so many students object to taking notes of cases

of disease, and attempt, as far as they can, to make this period of the curriculum a brief and imperfect one. I have hinted at the answer, which is not far to seek. I have not now in my mind the hopelessly idle and vicious student, good for neither work nor play, of which a few specimens are occasionally to be seen at all our large medical schools, but I speak of those who otherwise have worked fairly well. In the first place they are given too much to do, and not told how to do it. Attention has been drawn above to the extreme labour of relating even a single case of disease accurately and intelligently. A student who has a large number of cases handed to him and who is vaguely told to "take notes of them," is apt to be somewhat bewildered. He probably commences by selecting one prominent for its rarity and obscurity, and finds that the narration of this requires much pains at his hands. He must observe and think a good deal, likely enough must he read in various treatises the symptoms he may expect to find and elucidate. The matter becomes so difficult to him that his time is curtailed for the observation of the remainder. A fracture is accordingly dismissed with the description in his notes, that it is in the leg, that both bones are broken, and that the urine is faintly alkaline. One who has passed much time among clinical clerks may have heard this interesting accident, interesting and important because common, referred to slightingly by the clinical fraternity as a "rotten case of broken leg." If the student be allowed to drift into the habit of taking a large number of cases carelessly, he is soon shrewd enough to see that his work is of no great value either to himself or his teacher, and accordingly he with some justice is led to the conclusion that taking notes is waste of time. The consequence of laxity among students and the formal methods of case-taking in vogue among teachers is fraught with serious consequences to the former. I do not hesitate to confirm what older and wiser men than myself have before said. The systematic habit of taking cases accurately and well is the one way to teach a student, or rather for a student to teach himself, medical and surgical diagnosis. He certainly will not learn it from lectures, however eloquent they may be. It is equally certain he will not acquire the art from those small

text-books which have the single recommendation of being easily carried in the coat pocket. The first result that occurs is the frequent rejection of the idle note-taker at the final examination for want of practical diagnostic skill. The experienced clinical teacher and examiner knows well how to estimate the real knowledge of a candidate who grasps an inflamed testicle with a hand like a vice, or asks a respectable looking man with an obvious fatty tumour on the shoulder, as to whether he has a sore on the penis, or fails to demonstrate fluctuation in an evident case of abscess. In examinations where knowledge is tested by written cases students are also prone to fail. I have known a candidate at the final examination for a high surgical diploma spend twenty out of a possible thirty minutes in elucidating the history and family history of a stupid labourer with necrosis of the skull, and thus have little time for the description of the disease, and none for the diagnosis, which was not an unimportant part of his duty to state clearly. In after years in practice the same drawbacks are experienced. Many medical men, for the life of them, cannot present a distinct and accurate account of the leading features of a case to a busy consultant or brother practitioner. In medico-legal transactions they often get blamed for want of accuracy and method in their evidence. In the witness-box their position is, if possible, more unenviable than the majority of medical men, because they hardly know what stress or importance ought to be assigned to certain symptoms in disease.

Such being some among many of the bad consequences that ensue, through neglect of bedside observation and writing of cases, it becomes an anxious matter of inquiry as to how taking notes can be made more attractive to students, so that they may find the work palatable and profitable both to themselves and their teachers. I think that the key to this lies in altering the method commonly in vogue of observing the phenomena of disease; in encouraging brevity and accuracy of detail; in diminishing laborious and unnecessary investigation; and in the teachers working with the students, and making their notes of use to himself, instead of looking upon them as meaningless masses of writing to be consigned to the waste-paper basket.

I have stated my belief that medical teachers have their own ideas as to how a case of disease should be noted and related. It will not, I hope, be presumptive for me to introduce certain brief suggestions, the adoption of which, in my belief, would make case-taking useful and practical as a matter of education, pleasant to the student, interesting to those who may read what is written. What I say pertains to cases of surgery. I would, however, venture to remark that a somewhat similar plan might, with a few obvious modifications, be adopted in cases that come more especially under the notice of the physician. When a patient presents himself before us, we usually look at him, and try to determine whether there be anything in his general appearance, or facial expression, worthy of remark. Is he delicate looking or robust? bloated and intemperate, or spare and ascetic? Does he bear signs of the ravages of acute disease in his features? Has he the aspect of serious and acute illness or not? While these and similar matters of observation are passing through our minds we consider the intelligence and reliability of the patient and estimate beforehand the value of any statements he may presently make regarding his affection. A description of the general condition of the patient may then be summed up in a few sentences and if properly expressed carries much information to the mind of a reader. The condition of the vascular system, the urine, and the bodily temperature should receive brief notice, and this should be accurate. In cases of suspected renal disease, for instance, a little more than a casual examination of the urine for the presence or absence of albumen is advisable. The description of the disease itself should next employ attention. Here the powers of observation should be well exercised on the part of the student. He should bring prominently forward those signs and symptoms which, observed by himself, are indubitable and strongly diagnostic To the more unimportant symptoms he should assign merely a confirmatory stress. After this examination he will have to ask the patient questions regarding those special points that may throw light on the particular case. These must be carefully put and considered, and the value of the answer weighed with caution. A man is never so foolish as when he

is ill. From sheer wilful inaccuracy, from preconceived ideas regarding the value of their own diagnosis, from stupidity or a congenital tendency to untruthfulness, patients, particularly those of the lower classes, give such a garbled account of their diseases as to form very unreliable data for satisfactory argument. Undue reliance on history of disease certainly leads to erroneous diagnosis, and I cannot but regard the prominence which is given to it by many teachers to their students as a great mistake.

However, should the student elicit anything from the patient which has a direct bearing on the case, and seems to be reliable, he notes it in the "history." He may now briefly state the diagnosis, and give reasons for his conclusions; in this he will do well not to be unduly positive. To observe the further progress of the case requires attention and especially interest and enthusiasm. The same plan of attention to accuracy and facts of importance should run through the whole case. The treatment should be briefly noted, also any important changes in the symptoms, or the manifestation of new phenomena. If the case be of a chronic nature a brief summary of the more important conditions at stated intervals, say ten or fourteen days, is far more useful to all parties concerned than daily written notes of pulse and temperature, or the announcement that the patient's bowels "had acted once," or that he had partaken of "rice pudding for his dinner."

Should an operation be performed, its leading steps should be noted and expressed in such a way as to show a reader what was done, and how it was performed. Of course many students lack the power of description and condensation needful to do all this well. None need lack the interest which the taking of notes after this fashion should engender. The labour is great; hence I argue that the burden should not be made too heavy for them to bear. But the advantages are also manifold. A student who notes a case of disease after this method is bound to learn a great deal about the subject. He has to read the accounts given by authors of it. He sees how disease may differ from the typical descriptions of the books. Unconsciously he cultivates powers of observation and memory, and hereafter will

have much reason to bless the laborious hours that he spent in case-taking.

I have urged that the number of cases the student is called upon to observe and relate should be limited. They should also be chosen, as far as possible, not for rarity and peculiarity, but rather because they are common or typical of certain disease, or for the express purpose of cultivating observation. A case of early disease of the hip affords a far better opportunity to the student of exercising his reasoning faculties than a curious tumour or unusual affection of the skin. The adoption of these principles would be of great utility to the teacher. He would be able to place some reliance upon the care and accuracy with which the cases had been noted. This would still further stimulate the clinical clerk. Many a student would be quite pleased to assist his teacher in the investigation of any diseases or classes of disease which the latter wished to investigate or collect. Once a student has taken a few cases after this fashion and begins to feel the advantage of accurate observation, he cultivates his powers accordingly, and is soon agreeably surprised at the progress he has accomplished. A sure progress, because founded on that most stable of foundations, his own effort and observation. I have thus far dealt mainly with the subject as it pertains to the student; I have but hinted at the importance of its cultivation and support by the teacher. If the latter takes a lively interest in his cases and the progress of his profession, and shows the students that he considers their notes of value, the latter will readily enough respond to the stimulus. The reverse is also true. Indeed the duties of the teachers are too obvious to need exemplification. The importance to students of case-taking is so great that I would urge upon those in authority the advisability of insisting upon the regular attendance in the wards of those who are acting in the capacity of clinical clerks. The remedy lies in the hands of the deans of the different medical schools. But I have a sufficiently good opinion of medical students to believe that the majority of them will readily work, provided that the work is not excessive and that they are able to appreciate that they are really profiting by it. It would be laughable

were it not for the unhappy results that ensue, to hear students talk of "getting over" their surgical clerking. The taking of notes and post-mortem examinations seem to be too often regarded as mere obstacles wilfully placed in their way by the examining bodies,—obstacles to be climbed over or eluded as quickly as possible, before the student is ready for his course of "cram," and the ordeal of the final examination. All this is not entirely the fault of the student. They really are ignorant of the immense value of these posts and of the opportunities they are throwing away. I have much sympathy with the difficulties of modern medical students in the multitude of examinations they are expected to pass. I would fain hope that this article may assist their progress by pointing out to them and others the value of true clinical work and observation.

TWO CASES OF PELVIC HÆMATOCELE.

WITH REMARKS.

By Dr. POTTER.

Maria C—, æt. 35, married, admitted August 17th, 1885. Family history unimportant. Personal history healthy; never had any serious illness. Catamenia commenced at eleven; has never been very regular. Married seventeen years. Three children, youngest nine. Has never miscarried.

Present illness.—Has been ailing six months. Taken ill suddenly one morning with pain in the lower abdomen and back, also with vomiting. Two days after this the patient states she flooded; she sent for a doctor, who attended her for three months. The last catamenia had occurred two months before the flooding ? January. Ever since this there has been a pale red discharge; sometimes it stops for a few days and then reappears; it often comes away in gushes. For the last six months micturition has been more or less difficult and occasionally painful. Bowels kept fairly regular until a fortnight ago, though there has been some difficulty and pain in defæcation. Sick occasionally, but not specially in the morning. Has noticed she has been getting larger in the abdomen lately, the breasts have swollen a little, and there is a slight milky discharge from the nipples. Complains much of bearing-down pain and much pain in the lower part of the abdomen.

Vaginal examination (August 25th).—Posterior *cul-de-sac* is occupied by a large soft tumour. Cervix soft and low

down, lying against the anterior wall of the vagina. Sound passes two and a half inches and then seems to grate against an irregular mass. Endeavours were made to push forward the tumour by introducing the fingers into the rectum, but without success. An india-rubber air-ball was then introduced into the vagina and distended with air.

August 26th.—Patient anæsthetised; tumour, which was supposed to be the fundus uteri retroverted, was concluded to be a uterine fibroid, and the idea of the existence of pregnancy given up. Passes urine freely. A little discharge every day of a pinkish colour. To be syringed with Hydrarg. Perchlor. (1—1000).

She remained in much the same condition until September 3rd, when the note made was, "Still complains of much pain which prevents her sleeping."

September 15th.—Dr. Potter returned to town and saw her for the first time. Per vaginam the cervix is found high up, os patulous, body of uterus fixed, the posterior *cul-de-sac* being filled up by a large elastic swelling ? hæmatocele.

27th.—Patient worse to-day, sweating a great deal. Pulse 130; temp. 101·6° (100° at midnight). Has vomited. Passed a large and very offensive clot last night. Micturition very painful and difficult.

30th.—Feels better, not in so much pain. Is eating more. Discharge is now mostly of a greenish colour and rather offensive. To be syringed every four hours with carbolic lotion.

October 12th.—Patient improving, tumour gradually diminishing in size. Discharge continues. Cervix becoming more central in position.

20th.—Vomited a little blood to-day, complains of pain in abdomen. Vaginal examination reveals now scarcely any tumour, the cervix is soft and central, slight discharge continues. Bowels act naturally.

26th.—Hæmatemesis has continued each day; complains of diffused pain over abdomen. No particular tenderness or pain in epigastrium. Says she has pain after food. To be kept on low diet and have a mixture containing gallic acid gr. x, and Tinct. Opii ɱx, three times daily.

27th.—Thinking the hæmorrhage by the mouth might be

increasing, it was determined to try to restore the catamenial function, and for this purpose a leech was applied to each knee. Medicine to be discontinued.

28th.—Feels a little better, vomiting continues, but there is less blood.

31st.—Catamenia appeared this morning; there has been no blood vomited the last two days.

November 1st.—Catamenia ceased. There is no blood now vomited, but she is sick occasionally.

3rd.—Sickness increasing, vomit streaked with blood. To have creasote ℥j in pill, three times a day.

6th.—Vomiting persists, all food by the mouth to be given up and the patient fed by nutritive enemata administered every four hours.

8th.—Vomiting ceased. The enemata to be continued. Complains of some pain in the abdomen.

10th.—Patient complains much of having no food and dislikes the enemata very much. They are therefore to be stopped, and she now takes by the mouth milk, beef-tea, and ice.

14th.—For the last two days patient has again been vomiting her food mixed with blood. She has had gallic acid and Acid. Sulph. dil. and Pulv. Ipecac. Co. gr. v at bedtime. Vomiting still continues so the enemata were again ordered (brandy ℥ss, yolk of one egg, and either milk or beef-tea to ℥ij) and all food by the mouth and medicine stopped.

17th.—Better; vomiting less, complains occasionally of feeling faint. Sometimes drowsy and apathetic, at others bright and cheerful.

20th.—Enemata stopped to-day. Food by the mouth to be given in small quantity, gradually increased.

25th.—Improving, still complains of dull pain in abdomen, not particularly in epigastrium, sometimes worse after introduction of food into the stomach. No tumour to be felt.

December 1st.—Is getting up and reclines on couch.

8th.—Feels better and is looking brighter. Has vomited slightly once or twice lately.

10th.—Not so well, vomiting has become more frequent again and contains blood.

urine so naturally as before and had a constant dribbling for about a week.) The doctor not being satisfied with an examination both abdominally and per vaginam, told her she was not pregnant. He noticed that while she was being examined (per vaginam) a rush of water came from her.

On the following day (September 7th) a catheter was passed and eleven pints of urine drawn off. Next day (September 8th) five pints of urine (dark coloured and rather thick) were withdrawn.

For three weeks the catheter was passed regularly every day, and then she was sent as out-patient to Mr. Cooke, who recommended her admission into the hospital.

On admission (September 25th).—Abdomen was prominent and occupied by a large tumour, reaching about two inches above umbilicus; dulness over the centre of abdomen; resonance in flanks. Fluctuation distinct. A catheter was passed and seven pints of urine were drawn off. Tumour diminished in size, highest limit below umbilicus.

Vaginal examination by Dr. Potter revealed a large semi-elastic tumour, filling up posterior aspect of vagina. Cervix high and cannot be reached.

September 28th.—Rigors at noon to-day. Temperature 103·4°, falling to 100°. Urine drawn off by catheter.

29th.—A consultation was held to-day as to the propriety of performing abdominal section, the opinion being that the tumour was either ovarian or that of an extra-uterine fœtation. After considerable discussion it was decided against. The patient, however, was put under ether, and a vaginal examination made. The cervix was found to be very high, os looking forward above symphysis. Sound passed three and three quarter inches forward direction, freely movable, and could be felt by palpation through the wall of the abdominal tumour, which was concluded to be enlarged uterus. The large tumour in the posterior *cul-de-sac* was then punctured with a trocar, and 36 oz. of blood-stained fluid drawn off (this fluid contained 1·1 per cent. of urea). A small sponge soaked in carbolic was afterwards inserted into the vagina. Patient had a rigor just before operation.

30th.—Patient feels pretty well this morning; rather

drowsy. Slept fairly well. Sick slightly after anæsthetic, not since. Complains of pain in abdomen and back. Rather thirsty, tongue and skin dry. Takes nourishment well. Sponge removed at 10.30 a.m. No discharge. Temperature at 12 noon 101·8°, at midnight 97·6°. Catheter to be passed every eight hours.

October 2nd.—Doing well; highest temperature to-day 103°. Bowels relieved by enema. Urine very offensive, alkaline; pus, albumen, phosphates. Still rather drowsy and apathetic.

4th.—Looks brighter and feels better this morning. Tongue and skin moister. Appetite good. Bowels acted naturally. Temperature subnormal, pulse 96. Urine slightly alkaline; pus, albumen.

7th.—Complained of pain last night, which prevented her sleeping. Not feeling well this morning. Pain continues; fomentation applied. Temperature has risen to 102°. Has been shivering. At 1 p.m. patient very restless and throwing herself about. Pain continues. Hypodermic injection of morphia (miij) given. Slight pinkish discharge appeared this morning. Towards evening, pain seemed to assume a bearing-down character, and at 6.30 p.m., with a slight effort, a fœtus enveloped in the membranes, and placenta were expelled per vaginam. Slight hæmorrhage. The development of the fœtus appeared to be that of about the fourth or fifth month. Seemed to be quite healthy, there being no signs of maceration.

Vaginal examination after expulsion of fœtus and membranes. Os dilated to about size of a crown piece; looks towards symphysis. On introducing finger into cervix and making gentle traction, posterior tumour seems to recede slightly.

8th.—Feeling better this morning. Slept fairly well. Slight pain. Pulse 108, temperature 98°. No tumour can be felt through the abdominal wall. Slight discharge. Vaginal douche (tepid, weak carbolic) every four hours.

9th.—Fairly well at 10 a.m. this morning. Sick and slight rigor at 2 a.m. Temperature rose to 104°, falling at 8 a.m. to 99·4°. Sick again at 12 noon. Temperature 104·4°, pulse 132. Temperature, 6 p.m., 100°. Several

thick shreds of membrane have come away after syringing.

11th.—Much better; slept well last night. Temp. 99·8°.

12th.—Temperature rose at 8 p.m. to 100°, falling at midnight to 99°. Passed 12 oz. of urine naturally during the day. Catheter passed at 9 p.m. Forty-four fl. oz. drawn off.

16th.—Patient has been going on fairly well. Was sick to-day at 1 p.m. Tumour decidedly larger, almost blocking the vagina. Feels tense and elastic. Bowels opened by enema. Temperature 102°, morning; 102·4°, evening.

18th.—Temperature rose from 101·6° at 8 p.m. to 104·6° at 12 midnight. Vomited at 8.45 p.m. Feeling very hot and thirsty. Takes her nourishment well.

19th.—Temperature at 4 a.m. 105°. Feels and looks worse. Has been slightly sick. The tumour appears slightly softer and smaller. At 3 p.m. Dr. Potter decided to puncture the swelling with a long-grooved needle, and if pus were obtained, to make a free incision and insert drainage-tube. Only blood-stained serous fluid, however, came from the swelling, and no further action was taken. Ordered brandy ℥ij. Has complained of cough lately.

20th.—Chest examined, but no morbid physical signs detected. Slight oozing from vagina. Feels about the same. Sick at 9 p.m. Temperature 102·4°. Urine acid, albumen.

22nd.—Temperature rising gradually all day, at midnight 104°. Pulse feeble, 144. Feels exhausted. Ordered ℥ss brandy with yolk of egg, every three hours.

24th.—Aspect rather yellow and sunken; breathing rather more rapidly. Pulse 124, weak. Sick at 4 a.m. Takes plenty of milk and soda.

25th.—Patient apathetic; wandering slightly. Temperature at 4 p.m. 103·2°, fluctuates. Ordered quinine gr. v, in two pills, night and morning. Sick at 6 p.m. At 10 p.m. patient had an attack of diarrhœa, not being able to hold her motions. This continued more or less all night. Ordered Pulv. Ipecac. Co., gr. v, ter die. Sweating profusely. Respirations 36, pulse 128. Egg and brandy as before.

26th.—Temperature fell to normal at 4 a.m. Breathing became rapidly worse, and patient expired rather suddenly at 2.30 p.m. Quite conscious until a few moments before death, and had taken her nourishment this morning.

Post-mortem (October 27th, 1885, twenty-four hours after death).—Body well nourished.

Brain.—42 oz. Ventricles extremely large, and containing much subarachnoid fluid. Lining membrane of ventricles studded with numerous small elevations.

Lungs.—Emphysema and bronchitis present in both lungs. Pleuræ present nothing abnormal.

Heart.—Weight, 13 oz. The mitral valve on its auricular surface is covered with coarse soft white vegetations. Other valves present nothing abnormal. Pericardium *nil.*

Liver.—Large, soft, fawn-coloured.

Spleen.—Diffluent.

Kidneys.—Large, soft, white, with a caseating infarct in the centre of both at cortex.

Bladder.—Large, with flaccid hypertrophied walls.

Uterus.—Completely retroflexed and united by recent soft adhesions to the posterior peritoneal wall of Douglas' space; the included cavity contains comparatively recent and partially decolourised clot. The uterus is large, flabby, and bears the traces of insertion of placenta, which is situated on the posterior wall of fundus. Length 4¼ in.; breadth of fundus 2¾ in. Ovaries *nil.*

I have thought it well to put these two cases on record because they contain many points of practical interest. In the first place they illustrate the great difficulty in arriving at an accurate diagnosis. Cases of hæmatocele occur sufficiently often in practice as in the acute stage to be recognised with fair ease. The suddenness of the attack, the occurrence of faintness, and, in the severest cases, of collapse, followed by marked pallor, are sufficiently obvious signs. But that these cases are either often overlooked, or that the patients do not seek advice at the time of the attack, is an undoubted fact; hence the number that we see in the later and more chronic stages of the disease. And hence the difficulty of the diagnosis. This is especially characteristic of the first

case. When admitted the condition was supposed to be one of retroversion of the uterus, there being an obscure history of pregnancy in addition to the other symptoms, which pointed to the possibility of the organ being gravid. Afterwards, the idea of pregnancy being dismissed, it was considered to be possibly an impacted fibroid. At the time when I first saw her the body of the uterus was high up and in front and fixed, at the same time the tumour in the posterior *cul-de-sac* was of an elastic feel, not then having the characteristic hardness of a fibroid tumour. The after-progress of the case and the disappearance of the tumour and the returning mobility of the uterus proved the nature of the case to have been a hæmatocele. Another reason of difficulty in the diagnosis is the occurrence later on of pelvic inflammation in many of these cases; the effusion of a large quantity of blood into the peritoneum sets up symptoms of inflammation with elevation of temperature and the other signs of pelvic peritonitis. This still further masks the case, especially if the original history is defective. Another point of interest in this case was the occurrence of hæmatemesis and bleeding from the mouth at intervals after this on more than one occasion, seeming to be vicarious of menstruation, that is to say, ceasing coincidently with the occurrence of the catamenia, but this was not always the case. The patient has been seen from time to time up to the present date (October, 1886) and she still has bleeding from the mouth at times, although the menstruation has been regular and somewhat profuse for some time past. She seems to have the tendency to bleed from some mucous surface at all times. As to treatment, the various drugs given appeared to have very little influence on her hæmorrhagic condition. The feeding per rectum with nutrient enemata and on one or more occasions the measures adopted to make the uterus act appear to have been the remedies of most value, with the negative one of not puncturing the tumour. I think it is now admitted by most authorities that surgical measures should not be resorted to unless very urgent symptoms should arise.

In the second case the coincidence of the disease with pregnancy is a point of great interest. The first thing to be noted is the fact that the patient herself believed when

she first sought advice that she was pregnant her full time; hence on the occurrence of pains in the abdomen and back she naturally took them for those of labour and sent for her doctor. He recognised at once that the abdominal tumour was caused to a great extent by the distended bladder; he drew off with a catheter eleven pints of urine, and for some days a considerable accumulation of urine was removed in the same way. She was then told that she was not pregnant. On her admission the abdomen was occupied by a tumour extending to two inches above umbilicus, fluctuating and dull on its anterior surface, resonant in flanks. On withdrawing seven pints of urine with the catheter the tumour went down to a level below the umbilicus.

The occurrence of rigors and high temperature led to the advisability of some active measures being taken for her relief, it being thought that there was an abdominal tumour extending down and blocking up the pelvis, and that there were signs of inflammation or suppuration in it. A careful examination under ether revealed the fact that the abdominal tumour that remained was mainly the enlarged uterus and that the sound passed three and three quarter inches in a forward direction; that the main distress was caused by the pelvic tumour which was pressing much in all directions and filling up the cavity of the pelvis, displacing the uterus forwards and also pressing on the bladder. This was therefore punctured, 36 oz. of blood-stained fluid being drawn off. Eight days after she aborted of a fœtus of about four to five months. For a day or two after this patient went on fairly well, afterwards the temperature rose to 104,° varying up and down up to the time of her death twenty-seven days after original operation. The signs pointing to probable suppuration of the tumour, it was punctured with a grooved needle, but nothing came away except a small quantity of blood-stained serum. The post-mortem examination revealed a condition of ulcerative endocarditis, which was the probable cause of death, and the remains of the sac of the hæmatocele were also found behind the uterus. There was nothing special about the uterus except its flabbiness, and the fact that the ordinary involution had not taken place to any extent.

That hæmatocele is generally met with in the subjects of

irregular menstruation is an undoubted fact, and also that it is more often in connection with excess than diminution; this is borne out by the first case. In the second its connection with the suppression of pregnancy is sufficiently remarkable. The usual symptoms of weight, bearing-down pain, and pain in the back were present, and these especially in the first case; in the second they were complicated with the distended bladder and the heavy gravid uterus. In both cases the use of the sound was most valuable in clearing up the diagnosis. In the second case the idea of extra-uterine fœtation was much in our mind as a possible cause either alone or in conjunction with an ordinary pregnancy, but not a trace of such condition was found.

REPORT

OF THE

DEPARTMENT FOR DISEASES OF THE SKIN.

1885.

By Dr. T. COLCOTT FOX.

For the year 1885 I registered 860* new cases, but these do not include a number of patients seen in previous years who applied with skin affections which had relapsed. I append, as last year, an alphabetical list.

Acne vulgaris	23	Ichthyosis	5
Alopecia areata	17	Impetigo contagiosa	80
„ furfuracea	2	Keratosis pilaris	1
Atrophy, linear	1	Leucoderma	1
Comedones	1	Lichen planus	4
Dermatitis	8	„ scrofulosorum	3
Ecthyma	11	Lupus erythematosus	3
Eczema	171	„ vulgaris	5
Erysipelas	1	Lymphatic disease	1
Erythema multiforme	5	Miliaria	2
„ nodosum	1	Nævus	2
Herpes iris	1	Onychia	1
Furunculus	4	Pediculosis capitis	31
Herpes facialis	4	„ vestimenti	40
„ progenitalis	2	Perionychia	2
„ zoster	10	Pernio	1

* In 21 other cases I omitted to make any note of the disease or its symptoms.

Pityriasis circiné (Horand)	1	Tinea trichophytina	tonsurans, 91 circinata, 5 barbæ, 7 cruris, 1 104
„ maculata et circinata	1		
Prurigo Hebræ	2		
Pruritus	2	Tinea versicolor	8
Purpura	1	Ulcus rodens	1
Psoriasis	36	„ after variola	2
Raynaud's disease	1	„ with varicose veins	6
Rosacea	19	Urticaria	18
Rötheln	3	„ papulosa	10
Scabies	74	Varicella	2
Seborrhœa	20	Varioloid	1
Sudamina	1	Verrucæ	3
Sycosis	8	Unnamed (name not recorded)	21
Syphilis	70		
Telangiectases nasi	1		

Acne and Comedones.—Twenty-three persons (fourteen males and nine females) applied for the relief of acne (I do not include A. rosacea), mostly of a severe character; but of course these numbers do not represent correctly the frequency with which this very common affection occurs in the community.

The ages of the patients were as follows:—14 years, 1 male; 15 years, 1 female; 17 years, 3 males 1 female; 18 years, 3 males 2 females; 19 years, 4 males 1 female; 20 years, 1 male 1 female; 22 years, 1 female; 23 years, 2 males; 24 years, 1 female; 29 years, 1 female.

In all comedones were seen, and many of the patients were very pallid and extremely dyspeptic. Three cases only call for remark. Firstly, a woman, aged 24, with typical acne of the face, the back and chest, and also the legs. Secondly, a youth aged 20, who had comedones, papules, and pustules of the face, and also a remarkable number of large nodules or boutons (the "tubercles" of dermatology) about the borders of the jaws and neighbouring portion of the neck, such as we see in some cases of tinea barbæ. And thirdly, a young man, Edwin G. C—, aged 17, who, in addition to the ordinary acne of the face, displayed an immense number of comedones of upper portion of the forehead and anterior third of the scalp. The latter condition calls for some remark. I was the first to call attention to this very curious affection in presenting a case to the Dermatological Society on March 14th, 1883, and I had then seen several cases, for it is a condition

fairly common at children's hospitals. Subsequently Drs. Crocker and Cæsar wrote on the subject in the 'Lancet,' and Dr. Stephen Mackenzie and others brought cases to the Dermatological Society. The affection generally commences over the temples near the hair, and spreads along the border of the scalp and adjacent portion of the forehead, and also into the hairy scalp over the anterior third only in the majority of cases. A certain number of the plugged follicles may suppurate, and the condition may last several years. It may come on gradually or quite acutely. I have not as yet tabulated the ages of the children thus affected, of whom I have notes, but my impression is that it is met with most commonly from the age of 4 or 5 until 12 years. The case I now record is exceptionally late. I have several times seen two children of a family similarly affected, and on two occasions three. Careful search has failed to detect any parasitic cause. It is curious that no mention of this condition occurs in any text-book, at least I am not acquainted with any account of it. Circumscribed patches of comedones, not secondary to any inflammatory condition, are occasionally seen in adults and in children; Dr. Board, of Clifton, lately sent me a remarkable illustration of the fact in the person of a man of about 40 years of age, who had symmetrical patches over both malar bones with a few comedones dotted round the eyelids. Mr. Hutchinson has figured a somewhat similar condition in his 'Illustrations of Clinical Surgery,' 1877, plate xxvi, fig. iv.

Alopecia.—The cases of alopecia which require notice belonged to four categories, viz. A. furfuracea and areata, alopecia in connection with infantile hereditary syphilis, and alopecia associated with ringworm. We shall only consider here A. areata, whilst the alopecia associated with hereditary syphilis and ringworm will be noticed further on. All the seventeen cases now tabulated, of which eleven were males, apparently belonged to the same category, and were characterised by circumscribed, bald, smooth, atrophic patches with characteristic club-shaped stumps at their spreading edges. An exception should perhaps be made of one remarkable family group of five members, in which there was a striking

tendency to the production of total alopecia ; but even here the onset in one boy was seen to be by the characteristic circumscribed atrophic patches. I naturally sought very closely for some vegetable parasite in this group of cases, but without success.

Sex.	Age.	Hair, physique, &c.	No. of attacks.	Family history.	Remarks.
L. C. ♀	8	Dark brown hair and eyes, spare	1st	No	Pallid, languid.
E. F. ♂	10	Dark brown hair, green eyes, spare	1st	No	Seems healthy; 1 month duration.
F. R. ♂	19	Dark brown hair, spare	1st	No	—
W. C. ♂	11	Fair hair, dark grey eyes	1st	No	—
L. C. ♀	6	Fairish hair, blue eyes	1st	5 other children in family, all free	Seems well, not anæmic; 12 months' duration.
W. L. ♂	15	Very dark brown hair and eyes, spare	On and off for 8 years	8 in family, all free	Good health, not anæmic, no headaches. Alopecia extensive, eyebrows been off and nearly all lashes, no down on arms except lower third, no hair elsewhere.
T. B. ♂	10	Fair hair, blue eyes, spare	1st	None	Quite 4 months' duration; a number of patches.
W. F. ♂	6	Fair hair, blue grey eyes	1st	None	2 months; extensive; good health.
E.A.K. ♂	15	Light brown hair, greenish eyes	—	None	5 years' duration.
H. W. ♀	7	Dark brown hair, blue eyes	1st	6 children in family, all use same flannel, all free	Good health, not anæmic; 5 months' duration.
J. J. ♀	12	Very dark brown hair, blue eyes	1st	None	Very delicate looking and red; anæmic.
J. D. ♂	5	Fair hair, blue eyes	1st	None	6 weeks' duration. Been in hospital under Dr. Sturges with paroxysmal hæmaturia; very anæmic.
W. C. ♂	18	—	Just beginning	—	—

Sex.	Age.	Hair, physique, &c.	No. of attacks.	Family history.	Remarks.
H. ♂	—	All dark brown hair and spare	Just beginning	Another son, aged 19, had total alopecia one year ago; hair now entirely grown	In patches.
A. H. ♂	4		—		Total alopecia.
F. H. ♀	14½		—		Almost total, only a little down on part of scalp; nails good; no illness; catamenia regular.
Mrs. H. ♀	—		—		Total since 8 years old; a little eyebrow comes at times and quickly goes; has had 5 children; no mishaps.

With regard to heredity, or the occurrence of A. areata in several members of a family simulating heredity, I am of opinion that such a state of things is more frequent than is generally recognised. Out-patients cannot remember whether their uncles or aunts had bald patches in childhood, but in private practice we can acquire somewhat more satisfactory evidence, and certainly cases are not uncommon where apparent heredity can be established.

Atrophy of the skin.—*Linear and macular atrophy of the skin* is a rare affection, if we exclude the "lines of pregnancy and lactation" in women and the striæ so commonly seen about the hips of adults.

Alfred F—, æt. 35, a moderately stout but very muscular coachsmith, applied for relief of tinea versicolor of the chest. On stripping him the axillæ were seen to be the seat of lanceolate narrow stripes of linear atrophy. They varied in length from half an inch to three or four inches, and were about one eighth of an inch broad, tapering to a point at the ends. The skin over them was atrophied, smooth, or slightly reticulated, of a beautiful mother-of-pearl aspect, tinted by a purple colour showing through. They extended from out the depth of the axillæ down the inner side of the arm for several inches. The axillæ were symmetrically affected, and a few striæ were noticed to be commencing on the hips. These atrophic lines had existed for several years, but the patient had never taken any notice of them. He was in excellent health.

Dermatitis and Impetigo contagiosa.—I coupled these affections together in last year's report, and defined what I

meant by *dermatitis*. I also pointed out how frequent a source of contagious impetigo a dermatitis with pus production was. The fact is that the greater number of suppurating excoriations, burns, cuts, &c., lead to contagious impetigo by the inoculation of pus in dirty children. Pustular dermatitis about the head from pediculi is another very frequent source, and also, I believe, puriform exudation from inflamed mucous membranes, *e. g.* mouth, nose, ears, vagina. So, too, vaccination sores, and I have many times thought I have traced I. contagiosa to festerings arising from scratched varicella eruptions. Two such cases are included in the list of the present year.

Professor Duhring, in his well-known work on skin diseases, describes an impetigo quite distinct from I. contagiosa, though bearing a close resemblance to it in its general features and course. It is characterised by "one or more pea or finger-nail sized, discrete, rounded and elevated, firm pustules, unattended by itching, occurring for the most part in children." The eruption consists of true pustules from the very outset, and does not begin, as in I. contagiosa, with vesico-pustules. The pustules also have a deeper seat, are rounded, conspicuously raised and without a central depression, and the crusts are yellowish or brownish, and not the characteristic straw colour of I. contagiosa. Moreover, he says, they are not contagious. If such a distinct affection exists no doubt we confound it with I. contagiosa, but I have not learnt to distinguish such a disease.

Ecthyma.—In last year's report I explained that I hesitated to accept the existence of a distinct disease known by the time-honoured term ecthyma. It is certainly true that these large pustules with considerable solid base, which we call ecthymatous pustules, are met with in a variety of diseases such as scabies, urticaria papulosa et pustulosa (lichen urticatus), pediculosis, impetigo contagiosa, &c. A certain number of patients come with some of these ecthymatous pustules and we cannot precisely determine how they have arisen. Such cases I have collected under the head Ecthyma.

Eczema.—No less than 180 people with eczema came for

relief, and in none, as far as I could determine, was the eczema of external origin, unless the six cases in which it was asymmetrical and associated with varicose veins be claimed. In the profession it is a widespread custom to ascribe a gouty origin to a great number of cases, and however true it may be that a great proportion are associated with malassimilation of food and liver and stomach disturbance, still the fact remains that in only a single case, one of palmar eczema, was there a history to be obtained of true attacks of articular gout. Of 177 cases noted 86 were in males and 91 in females. The following table gives the ages at which the patients came under observation :

Under 1 year	34 cases.	77
„ 2 years	5 „	
„ 3 „	9 „	
„ 4 „	7 „	
„ 5 „	4 „	
5 to 10 „	18 „	
10 to 20 „	19 „	
20 to 30 „	20 „	
30 to 40 „	11 „	
40 to 50 „	19 „	
50 to 60 „	18 „	
60 to 70 „	14 „	
70 to 80 „	2 „	

Thus, in the first ten years of life there were 77 cases, or nearly 43 per cent. of the whole number, and of these 59, or nearly 33 per cent., occurred in the first five years, and no less than 34 cases, or nearly 19 per cent. of the whole, in the first year. Thus, after the first year or eighteen months there is a rapid diminution in the frequency of eczema in the immediately subsequent years and these results correspond pretty well with Bulkley's figures ('Eczema and its Management,' 1881). In a considerable percentage there is a tendency to the recurrence of the disease throughout life, and often limited to the face and forearms. It is not strikingly hereditary, but one often sees several babies of a family successively attacked. In 37 of my cases in which the disease commenced in, or was continuous from, the first year of life, 20 were males and 17 females.

Distribution.—In very young infants it is almost always

on the face or scalp. In extensive cases it may be more general, but the face and scalp are always involved, and this may be due to the same reason that makes the head and face the head quarters of sweating in infants, *e. g.* in rickets. Later the scalp and face are less frequently and predominantly involved and the eruption is often limited, as in adults, to the backs of the ears, bends of the elbows and popliteal spaces or extensor surfaces, especially the backs of the forearms and hands.

Eczema of palms and soles.—Seven cases were seen, all in adults, and several confessed to drinking a great deal of beer and spirits. One woman drank much sherry, and had attacks of gout. This phase is very difficult to cure unless all alcohol be cut off. The palms may be alone affected or the soles also, and in the majority of cases there is eczema elsewhere on the body. Almost invariably the disease is bilateral.

Figured eczema.—Occasionally the papules and vesicles of eczema, which have such a characteristic tendency to aggregation, continue to evolve at the borders of a little spot of eruption, and the older parts declining, the fresh ones at the periphery give a ringed appearance to the patches. If the eruption is papular and the patches scattered on the trunk and limbs a lichen scrofulosus or miliary syphilide may be stimulated.

Warty eczema.—Old patches of eczema, lichen planus and even psoriasis on the shins and other parts of the legs tend to become rugose and take on a warty growth which completely disguises the character of the original eruption. It is well to bear this in mind.

Treatment of eczema.—I have been using for a long time the oleates of zinc, bismuth, and lead. At first the old forms were used which were really solutions of the oxides in free oleic acid. I found great difficulty in procuring pure oleic acid and the ointments used caused a good deal of smarting and were anything but soothing and bland. Anyone using this form of so-called oleate must see to the quality of the oleic acid or he will be grievously disappointed in his results. After a time the true oleates, which are fixed salts, were used compounded with vaseline to a proper consistence.

These are admirable preparations. The oleates of zinc and bismuth will be found the most bland and soothing applications and must replace in a great measure the old benzoated zinc ointment. The oleate of lead is also very useful, but in its use for less actively inflamed conditions I think it has little advantage over the ointment compounded of lead plaster and vaseline.

ERYTHEMATA.—Only seven cases pertaining to this class were seen, all in March, April, May, and July.

M. C—, female, æt. 35, applied on March 25th, with dull red macules the size of a shilling, in imperfect circles and crescents, slightly desquamating, on the extensor aspects of arms, on the scalp and face, and one on leg; constipation; no clue to rheumatism.

P. N—, female, æt. 19, applied on May 20th with a very similar eruption of the arms; no clue to rheumatism.

A. H—, male, æt. 7, came on July 15th with a delicate rosy E. circinatum not yet fading. It came out suddenly two days previously, ushered in by malaise and slight sore-throat. The lesions appeared as faintly raised macules, size of finger-nail, clearing in centre as they spread, and forming more or less perfect rings, limited in distribution to arms from shoulder to just above elbows, and to buttocks, thighs, and legs; no clue to rheumatism; no elevation of temperature.

G. J—, male, æt. 17, attended on April 22nd, with well-marked herpes iris (Bateman) of forearm and hands. No herpes facialis or preputialis.

C. S—, female, æt. 32, received a severe mental shock on July 27th, and on the 29th E. nodosum appeared on both shins, and slightly on the extensor surface of the arms. The eruption was mostly papular. She could not bend any of the joints without pain, and the thumbs and knees were stiff and the ankles slightly swollen. She never had rheumatic fever.

The other two cases were remarkable for their small-patterned eruption.

A. C. P—, æt. 16, male, presented tiny, rounded, faintly raised, discoid, rosy maculo-papules, indistinguishable from roseola annulata. On the nose were half a dozen circles the size of a split pea. The face and ears were involved, and a few were grouped on the external aspect of the forearms, especially the right, just below the elbow. The eruption came out suddenly on March 16th, was fading on March 18th, and all gone on the face on the 25th without play of colours. No joint affection; no general disturbance; no elevation of temperature.

A. H—, male, æt. 19, came on the same day from another part of Westminster with a precisely similar eruption, but it was fading, and had appeared on the 12th. The face and ears were desquamating, and the backs of the hands and wrists on the 18th were closely covered with coalescing, purplish, rounded

maculo-papules the size of lichen planus eruption. No joint affection; no elevation of temperature.

HERPES.—Ten patients came with herpes zoster, aged respectively two, four, nine, eleven, fifteen, twenty-one, thirty-five (two), fifty-one, and sixty-eight years. In four cases the eruption was on the right side, and in three cases on the left, in the others the point was unrecorded. The nerves affected were the third, fourth, (three times), fifth, ninth, and tenth dorsal, and the ilio-inguinal (twice). In another pectoral case the nerve was not noted. The pain was comparatively trifling in all. It may be mentioned that one case was complicated by impetigo contagiosa, and another by psoriasis, but neither patient was taking arsenic, and at the Victoria Children's Hospital I have noticed that a considerable proportion of the cases of herpes zoster that I see occur in children during their attendance for some other condition.

LEUCODERMA.—In this case we were enabled to watch the rapid extension of this pigmentary disturbance.

Susan H—, æt. 55, who was in weak health through much worry and fretting, complained of crawling and other disagreeable sensations in the skin; but the absence of any inflammatory eruption, and a careful search, enabled me to make sure of the absence of pediculi, which in some cases occasion much pigmentation in the skin. On April 21st she presented a typical and symmetrical leucoderma of the arms of three months' standing, and on July 15th this had extended all over the arms, under the chin, on the thighs, on the right side of the body, and a little on the left. I lost sight of her soon after this date.

LICHEN PLANUS.—During the year four cases of this disease came under observation, all in women aged respectively thirty, fifty-two, fifty-five, and sixty years. Three cases were well marked and unmistakeable examples of the lichen planus of Wilson, an affection now widely recognised by the profession. I may state that each woman was in a manifestly depressed condition of health, though there were no special symptoms, and all were cured by the continued exhibition of Liq. Arsenicalis and tonics. I also used with very good results an ointment composed of Hydrarg. Bichlor. gr. ss., Sp. Vin. Rect. q.s., Ung. Zinci Benzoat. ad ℥j. In the case of Elizabeth A—, æt. 52, the small of the back and the

buttocks were involved, and both legs, but the right most. Isolated papules, none umbilicated, early non-scaly aggregations, and raised, thickened, and moderately scaly patches were all noticed. Down the outside of the right thigh and knee nine papules were arranged in a longitudinal band. She was very weak and tottery. The fourth case was one of unusual interest, and calls for further remark. S. S—, æt. 60, had been nursing an insane gentleman, and had become much worn out. Her appetite failed, and she felt much exhausted and very low when the eruption appeared, nine months before her application at the hospital. As far as I could gather, the eruption had at first been quite typical of L. planus (Wilson), and when I saw her consisted of lesions distributed round the knees and over the vasti interni muscles, and about the wrists, chiefly on the flexor aspect. Some papules were absolutely typical and unmistakeable, and others had disappeared, leaving stains, but the bulk had gradually become (and the stages could be traced) much hypertrophied, irregular, purplish, or brownish masses, many projecting a quarter of an inch, more or less rounded and roughened on the surface, but not scaly. Not only were patches of aggregated papules thus affected, but also the tendency was evident in individual papules. The itching was *at times* severe. I refer specially to this case because, although the condition here described is recognised in London, I do not think it is so elsewhere, and it is a rare but remarkable characteristic of this disease. A L. hypertrophicus* has been described in France, but, if I do not mistake, the term is applied to the well-known thickened or warty patches of chronic papular eczema or other dry eruptions, chiefly seen about the legs. In L. planus (Wilson) a somewhat thickened, rough, or warty purplish-brown sheet not unfrequently occurs about the shins, as in the case I recorded in these reports last year, but I am calling attention to a different condition, and in S. S—, the patches on the wrist were equally hypertrophic, and I have indeed seen one or two cases where an eruption of this nature was very extensively dis-

* Vidal calls the old thickened patches of L. planus by the name of *L. p corné*. Perhaps the hypertrophic form I specially refer to is the *L. p. corné hypertrophique* of Besnier.

tributed. I need hardly add that unless the observer is aware of this possibility in L. planus he may be thrown entirely off the scent in the diagnosis. In this case the eruption gradually flattened and disappeared under the administration of Liq. Arsenicalis.

In England we have a very definite conception of L. planus (Wilson) and as a rule cases are easily recognised, but we occasionally meet with others which exercise us very much, and to some examples I will refer, especially for two reasons: firstly, that to this day we have a most imperfect acquaintance with the disease described as Lichen ruber acuminatus; and secondly, that if we are to accept Unna's cases we must amplify considerably our hard and fast conception of this disease. Hebra in the first edition of his great work, 1860, described the disease called by him Lichen ruber as characterized by peculiar symptoms, course, and mode of termination. In the early or spreading stages, he said, it consists of *miliary papules* of a dull red colour, never becoming vesicular or pustular and never undergoing peripheral growth, but remaining throughout of the same size, at first discrete and *covered with thin scales*, but later aggregating into patches, and tending to become generalized by the evolution of fresh papules, until the whole surface is universally reddened, infiltrated, and covered with numerous thin scales. At first, he added, there is not much itching and even in extensive cases not in proportion to the severity of the eruption. After some years the patient gets more and more marasmic, and the illness generally ends fatally. Hebra did not mention the shape of the papules, but it appears from subsequent descriptions that in the class of case he was portraying the lesions were *acuminate*. In 1869, in the 'Journal of Cutaneous Medicine,' Erasmus Wilson gave a masterly description of a disease he called L. planus, which at first sight appeared to be entirely different from the L. ruber of Hebra. It is characterized by "an eruption of pimples remarkable for their colour, their figure, their structure, their habits of isolated and aggregated development, their habitat, their local and chronic character, and for the melasmic stains which they leave behind when they disappear. The colour is often very striking, a dull crimson

red, more or less vivid and suffused with a purplish or lilac tinge, most characteristic in recently developed and discrete papules and getting duskier in the aggregated patches. When they fade away they tend to leave a notable melasmic staining. In figure the papules range from one to three lines in diameter, are angular in outline, only slightly elevated, with a flattened, smooth, shiny summit occupied by a thin, horny, semi-transparent lamina of cuticle which is not a scale and does not exfoliate on single papules, depressed on the surface and marked in the centre by the aperture of a follicle which has a conical epidermic plug. The eruption begins discretely, but tends to aggregation, and the patches are formed mostly by interpapular congestion and infiltration and then some exfoliation occurs. Some papules may extend peripherally to some extent and form plate-like lesions, and several may be arranged in clusters of an annulate or crescentic pattern. The site they occupy is pretty constant on the front of the forearm above the wrist, the hollow of the loins, the lower half of the abdomen, the hips, around the knees, particularly over the vastus internus muscle, the forearm and the calves of the legs, and in women under the garter and round the waist. It mostly attacks females and those between forty and fifty years of age, and the eruption is mostly symmetrical but by no means always so. The itching is trifling usually, but may be intolerable, and the disease is often a benign one. Subsequent experience has taught us that this description stands good, excepting that we know that the central umbilication of the papules is far from constant, and that clinically the follicular site of the eruption is not evident in many cases."

So far these descriptions seemed to refer to entirely different affections, but soon undoubted cases were recorded* in which the L. planus of Wilson was so extensive and severe and chronic that they approached closely to Hebra's description, *always excepting the latter's description of the papules*, and it came to be accepted in England that Wilson's affection was only a mild forms of Hebra's.

We are now well acquainted with these cases of universal

* Tilbury Fox, 'Clin. Soc. Trans.,' 1872, and Duckworth, 'St. Bartholomew's Reports,' 1872.

distribution and great severity in which, however, the *planus type* of papule is preserved throughout, and we recognise that the *papules in these extensive cases may be much smaller than in the discrete scanty eruptions*, and that they appear to be more hyperæmic, or at any rate the skin generally is more congested and infiltrated, and the peculiar purplish tint of the typical chronic planus papule is not so evident (Tilbury Fox, 'Med. Times and Gaz.,' 1873). In the year 1871, however ('Brit. Med. Journ.'), Tilbury Fox related a case of five and a half years' standing in which the lesions were somewhat different. Red puncta appeared, giving place to pinhead-sized reddish brown, slightly elevated, flattish, solid papules seated at the follicle and covered by exceedingly minute white scales. Below the knees the papules were finely pointed and crowned with small white scales and the surface felt like a nutmeg-grater. Here we seem to have for the first time evidence of the coexistence of Wilson's planus papule and Hebra's acuminate papule. In the second edition of their work (1874) Hebra and Kaposi described, in addition to the original L. ruber acuminatus, another form which seems to correspond fairly with Wilson's L. planus, and they state that both forms may coexist in the same subject, and they support the view of the close relationship of the two groups of cases. The point I wish to make clear is this, that in England we have only a vague knowledge of the kind of case originally described by Hebra where the eruption is miliary and acuminate and scaly, and that in the most extensive and severe cases of L. planus or L. ruber which we recognise we always rely for diagnosis on the presence of some angular, flat-topped papules, though they may be small.

With this introduction I will proceed to relate briefly some cases in which a difficulty in diagnosis was experienced, but there is first one other matter to which I must allude. Prof. Unna has lately recorded cases of what he believed to be acute L. acuminatus in which the papules are smaller than the miliary ones Hebra first described and in which the eruption may be limited in distribution, *e.g. to the upper limbs and neck.*

F. J—, male, æt. 47, applied for an intensely irritable, angular, flat, shiny, red eruption on the anterior aspect of the arms and hands, and round the wrists. The lesions were the size of the head of the ordinary pin.

G—, female, æt. 44, has an eruption of one year's duration. Wrists and backs of hands and back of neck covered all over with papules of like character to those in the last case.

A. B—, male, æt. 59, applied with a papular eruption round the neck, in figure closely resembling L. planus (Wilson), only of the pinhead-sized pattern. In the bends of the elbows the eruption was in a moderately infiltrated sheet and scaly, and the individual papules unrecognisable. In April, 1884, I diagnosed a previous attack as erythematous eczema of the face and papular eczema of the arms.

E. McL—, female, æt. 47, a stout, pallid, dyspeptic woman, with lithiasis and an intensely itchy papular eruption. The eruption was erythematous round the eyes, papular round the neck, and more or less in a sheet, with moderate infiltration, but no scaling round the arms and in the popliteal spaces; mostly on the extensor aspects. The papules were miliary, rather larger than those ordinarily seen in eczema, mostly square, flat, and shiny, but many round topped. There was no discharge, nor had there been any.

M. A. B—, female, æt. 30, has the external aspects of the forearms, the neck, and about the forehead and face covered with pinhead-sized, pink, flat, angular, shiny papules, accompanied by intense itching. Intense irritation, worse at night. Eruption of three weeks' duration. Never any weeping from the surface.

E. H—, female, æt. 55, had erysipelas (? eczema) of the face five months ago; the present eruption three months. The ears, face, and scalp are red and hot, and the neck, shoulders, waist, and wrist are covered with a minute, pink, angular, shiny, flat, pinhead-sized, itching eruption.

M. C—, female, æt. 60, eruption one month duration, very tremulous, and even choreic from birth, but worse lately. The whole trunk and neck, especially the back, and the thighs and wrists, and the great flexures of the limbs are occupied by a sheet of papules, which, however, are clearly made out, all of them shiny, angular, flat, size of pinhead; a vast number with tops scratched off. There is moderate infiltration, but only very slight exfoliation, and a little weeping from a patch on the thigh (? from scratching), otherwise no vesiculation or crusting. The face is red and scurfy. On the shins is a sheet of acuminated and rounded papules the size of pins' heads, and indistinguishable from those of eczema about the vesiculate.

All these cases I decided to refer to eczema, from the description of the irritation present, the history of the cases, the class of patient, the distribution of the eruption, the course of the papules, and the effect of remedies, for I may say the ordinary remedies applicable to eczema cured them. The only point of difficulty was the *figure* of the lesions, for I ought to say that none were violaceous in colour, none left more pigmentation than one sees in eczema, and none were umbilicated. The peculiar figure of the L. planus papule has been so much

insisted on in this country, and rightly so, that the erroneous inference has been drawn that L. planus is the only disease of the skin in which flat, shiny, angular papules are seen. This is certainly not correct, and I think these cases illustrate the fact that eczematous papules are not *always* rounded or acuminate. Many papules, *e. g.* in urticaria papulosa (lichen urticatus), syphilis, and miliaria, *especially in their subsiding stages* become flat topped, shiny, and more or less angular as they reach the level of the surrounding skin, as I continually observe. We are apt to forget also that an eczema may be purely papular throughout its course, and it is evident that some of these cases of widespread papular eczema require the most careful consideration in forming a diagnosis between them and a small-patterned extensive L. planus. With care, however, error may be avoided.

Lupus.—Four cases of L. vulgaris and four of L. erythematosus are included in the following table:

J. G.	♂	17	L. vulgaris	Began at 5 years of age	End of nose and upper lip swollen and studded with miliary nodules	No family history of phthisis or "struma."
E. T.	♀	19	„	Began at 14 years	Small patch of nodules on neck; nose, upper lip, and neighbouring portion of cheeks, closely studded with hundreds of miliary nodules	Grandparents all long lived; patient's sister healthy; no clue to "struma."
C. H.	♀	19	„	Began at 13 years	Started from suppurating glands in neck; now patches on right temple, point of nose, one cheek, upper lip, centre of forehead, and lately breast	Looks healthy; no family history of phthisis or "struma."
J. C.	♂	23	„	Childhood	Nose much destroyed	—
J. B.	♂	52	L. erythematosus	Duration 20 years	Several discs on scalp, and symmetrical on cheeks	No history of phthisis or "struma;" looks healthy.
E. M.	♀	44	„	Duration 2 years	Began in wing of nose "after a sort of chilblain;" now covers left wing and tip; back of rim of right ear extensively, and left slightly affected	Cold hands and feet, and bad chilblains; father not delicate though never strong; has chronic folliculitis of eyebrows, and her daughter is under me with a general L. pilaris.

M. W.	♀	27	L. erythematosus	14 years' duration	Cheek in front of left ear	Mother and brother died of phthisis; one sister in good health; patient had suppurating glands of neck in childhood.
C. C.	♀	62	„	„	Commenced on nose ten years ago, but she describes red patches round the neck as existing some years before; whole face covered in a sheet; small patch on one knee, and one on toe	Glands enlarged round neck since age of 36 years; one suppurated. Has had finger removed for strumous disease of bone. All her brothers and sisters healthy, but father died of phthisis, and probably others of his family.

All four cases of L. vulgaris were scraped and cauterised with a saturated solution of chloride of zinc in alcohol. Three remain cured, but in the fourth (Ellen T—) there was a recurrence of miliary nodules on two occasions, and though almost cured, this very troublesome Irish girl refused to undergo further treatment.

I treated three cases of L. erythematosus in a similar manner and with very happy results, though several operations were necessary. The fourth case declined treatment as on account of her affliction she was about to be comfortably provided for. In the cases of C. C— and M. W— I found considerable difficulty in determining the nature of the lupus, and I have great hesitation in classing them as examples of L. erythematosus. Some of the patients, it should be stated, were sent from the country, and were not town cases.

LYMPHATIC DISEASE.—I place under this heading a case of hypertrophy or elephantiasic enlargement of three toes.

Ellen L—, æt. 22, has had an enlargement of the three inner toes of the right foot from childhood. It is not great, but now inconveniences her very much. The second toe has suffered most. The skin of the toes is much thickened and indurated, and also the structures adjacent on the dorsum of the foot in a line with the space between the great and second toe for an inch or two. The skin is covered pretty thickly with little papules, such as are known as "lymphatic warts," and such as I have described to be formed by lymphatic dilatations

projecting from the papillæ and surrounded by hypertrophied rete processes. On the dorsum of the foot at the root of the great toe is a soft linear cavernous projection like a varicose vein, which can be compressed and refills. This condition, no doubt, proceeds from some congenital abnormality, and in the absence of any nævoid condition of the blood-vessels, and in presence of the "warts," I relegate it to the lymphatic system. If the whole limb had been implicated so-called elephantiasis would have resulted. In November, 1886, she came again. The enlargement had been kept in check and even reduced by the use of india-rubber bands.

NÆVUS.—Under this heading, used in the wider sense, two cases may be mentioned.

Nævus molluscíforme.—Alice A. C—, æt. 14, delicate and small for her age, presented a mole of irregular outline in the bend of one elbow, two inches by one and a quarter in extent, and raised half an inch. It was first seen two and a quarter years back, and came as a little brown speck, and has been steadily growing since and more rapidly of late. It is of a light fawn-brown colour with a pinkish tint, very soft and like a mouse to the touch, and easily compressible, and giving one the feeling as if it were cavernous. The surface is dotted over sparsely with miliary papules and a few big hairs. In the neighbourhood above and below are a few small, light, *pink* macules, and on the right hip a congenital pigmentary stain three and a half inches by two.

The second case puzzled me very much as I had never seen anything like it, but came to the conclusion it must be some curious form of nævoid condition.

Thomas E—, æt. 42, a street cadger, presented a very curious patch on either cheek which he insisted was congenital. They were about the size of a half crown, systematically placed, rounded, the edges somewhat pigmented with brown colour, a rather deeper red colour than psoriasis, not scaly, somewhat raised, not disappearing on pressure, and feeling infiltrated and firm to touch. He assured me the patches had been so from birth. There were no vessels prominent. I thought it lupus vulgaris at first sight.

NAILS.—A case very similar to that recorded last year came under notice.

Alfred C—, æt. 21, barman at a public-house, has a simple inflammation of the skin at the root and sides of the nail. The ends of the fingers are hot and painful. The growth of the nail is much interfered with, and is pitted, and fluted, and discoloured. The condition is painful, and further worries him as customers object to it.

In the following case the inflammation was due to washing.

Amelia L—, æt. 37, much out of health, suffers from inflammation of the fold

of skin at the root of some of the finger-nails. This recurs every washing day. Only some of the fingers are affected, and she occasionally loses a nail.

PITYRIASIS CIRCINÉ (Horand).—The following is a good example of the affection described by Horand, of Lyons, to which I have several times directed attention in the 'Lancet' and elsewhere.

Maria B—, æt. 4, fair, with muddy complexion, anæmic, and debilitated after a recent pertussis, applied on January 28th. First noticed the eruption two months ago on the shoulders, and a very red crop of macules six weeks ago; thence it has spread from the trunk on to the limbs and cheeks, but has not yet reached the wrists, or knees, or scalp. It shows sometimes much more than others. Fresh macules continue to appear, but the majority at the present moment are faded, though in certain incidences of light the whole surface is seen to be studded closely with faint pink or tawny macules not appreciably raised. The lesions can be traced to begin in tiny pea-sized pink or rosy macules, and to extend to size of threepenny piece, fading in the centre as they spread, and becoming ringed with a tawny centre and delicate, slight, rosy, hardly raised bordering. Many are slightly roughened and desquamating, and the scales are crammed with micrococci (see 'Clin. Soc. Trans.,' 1885). The macules are mostly rounded but sometimes irregular in shape, and only a certain number get ringed. On one flank is a large gyrate patch.

PITYRIASIS MACULATA ET CIRCINATA (Duhring).—The case I here record is a most unusual one. After consideration I have thus classed it, although in some respects, especially with regard to the great size the patches attained, it is unlike other cases described. The disease portrayed by Duhring I am now quite familiar with, but whether it is the same as Horand's P. circiné I am not quite sure. If so, there are some clinical differences in the child and adult.

John H—, æt. 36, a labourer at Lord's Cricket Ground, applied on September 30th. Married eleven years; never had syphilis; always a weakly child; fair hair and pallid complexion. The first spot was noticed by its itching fourteen days ago on the right flank, and since then fresh macules have continued to appear and spread. The scalp is the seat of slight seborrhœa, which he has suffered from for four to five years. The surface of the body is covered with faint red macular patches like a seborrhœa, round but mostly oval in outline, which itch very considerably. The macules are very faintly raised and roughened, with a few small scales like a seborrhœa. They begin in little pink punctæ and enlarge peripherally. Many are seen the size of a split pea or smaller, and they reach the size of a shilling or half a crown. The original one on the hip is two by three and a half inches. The follicles are not involved, and there is not any weeping or papulation, but the lesions are macular. The spreading edges are slightly more coloured than the older parts, but not raised,

so that there is an appearance of rings, though not a striking one. There is much itching. The distribution is as follows:—The face is clear, but the eruption is thick on the lower half of the neck, especially the sides and front. Over the clavicles confluent and much on upper part of chest, less on rest of front of trunk, and more on left side than right. On the back there are about twenty macules, mostly on the left shoulder and side, not in intercostal lines. There are a few over the pubis and groins, and neighbouring parts of thighs; one or two on the buttocks, and also the backs of the thighs and popliteal spaces, and several on the outside of the calf just below the knee. The macules are seen all down the arms, but more numerously on the forearms, and in confluence on outside of forearms near elbows. The axillæ and elbow bends are involved. The hands and mouth are free. The presence of itching is shown by the signs of scratching and rubbing. He has not sweated excessively. Ordered oxide of zinc lotion.

October 7th.—Eruption now universally tawny, but fresh macules still appearing, and itching still severe.

November 11th.—The patient's work has prevented his attendance. All fresh eruptions have ceased to appear, and there is only tawny staining left, though the outlines of the eruption can still be seen in many places.

PRURIGO HEBRÆ.—Of this interesting malady only two cases were seen, both in boys. I have met with singularly few cases in adults.

Henry S—, æt. 8, pallid and spare, dates his eruption from an attack of the measles three years back. The eruption is general, extending up the sides of the face and over the scalp, but is especially marked on the lower extremities and it avoids the flexures, the palms, and soles. The inguinal and axillary glands are enlarged and the itching intense at night.

In the next case I for a time withheld my diagnosis on account of the unusual distribution of the eruption.

Thomas McT—, æt. 6, an only child, fair, spare, and pallid. Eruption commenced at three weeks old, and has attended several hospitals without getting relief. Intense itching, so that nearly all the papules have the heads torn off, and are crowned by tiny hæmorrhagic crusts. Eruption all over the trunk, especially upper part of chest and back, and abdomen. On limbs, especially extensor aspects of arms and nates, and front of thighs. Flexures not so free as usual. Hardly any below knees or elbows, and very slightly over angle of face and neck. Over the buttocks there are typical papules, but elsewhere more felt than seen. General appearance in some places like xeroderma, and on shoulders like an old phthiriasis. Carbolic acid ointment gave great relief in this case.

PRURITUS.—The following was a very severe case and worthy of notice:

George H—, a big, stout man, æt. 59, had been under a surgical colleague for bad hæmorrhoids. He was suffering from intense mental irritability and depres-

sion, and complained of acute stabs as from a needle incessantly going on over his body and limbs, which he said would cause him to destroy himself unless he speedily got relief. The pricks are so acute that they made him spring out of bed. There was nothing to be seen on the skin. He was sleepless and complained of a dry, parched mouth. The tongue was large and flabby, and the bowels moved twice or thrice daily. The urine was full of lithates. He had suffered from two attacks of gout and had been passing for six months uric acid calculi and sand, though without bleeding or renal colic. Bicarbonate of potash and bromide of potassium gave him instant relief to a great extent, and he continued to improve under careful dieting and citrate of lithia.

Psoriasis.—Of the 36 cases, fourteen were males and twenty-two females. Of course many applied for recurrent attacks, but in 26 cases the age when the first outbreak occurred was noted as follows:

1 to 5 years	= 1	30 to 40 years	= 4
5 to 10 „	= 4	40 to 50 „	= 1
10 to 20 „	= 10	50 to 60 „	= 1
20 to 30 „	= 4	60 to 70 „	= 1

Of 24 cases in which hereditary history was investigated, three males and six females acknowledged it in their families, whilst fifteen denied or were not aware of it. In three cases where the eruption was widespread the nails were affected, and in one of these both palms were involved, and in another a patch occurred in one palm.

The treatment pursued has been mainly by naphthol ointment, pyrogallic acid ointment, and chrysophanic acid varnishes. The naphthol I cannot recommend as, when applied in sufficient strength to remove anything like a chronic patch, it is apt to set up a weeping dermatitis, and is painful. This is also true to some extent of pyrogallic acid, which is certainly far inferior to chrysophanic acid for old-established patches. No ill effects followed the use of pyrogallic acid in my hands. A number of patients painted their patches, according to Auspitz's suggestion, with a 10 per cent. solution of chrysarobin in traumaticine, and others rubbed in, according to Besnier's improvement, a 15 per cent. solution in chloroform, afterwards painting over the traumaticine. This is undoubtedly a most convenient method for some patches, but it is less effective than the ointment, though somewhat more cleanly.

RAYNAUD'S DISEASE.—The young woman thus affected very well illustrated some of the phases of this disease. She seemed to be a very healthy girl, and had never been attacked in previous years.

Annie B—, æt. 19, applied on December 2nd, with bluish fingers and small blood blisters on the ends of the fingers and under some of the nails of one hand only. The fingers were so tender she could not touch anything. She had never suffered from "dead fingers," and the other condition had only quite recently appeared. Up to March, 1886, she continued to develop patches on the shins very like slight erythema multiforme, and mixed with these and also along the borders of the feet, and beneath the malleoli and on the heels livid purpuric spots and blotches of all sizes up to that of a shilling, disappearing on pressure but quickly reappearing when the pressure was removed. Many of the bigger patches became the seat of very superficial gangrene, and were covered with black eschars, and gangrenous specks and points formed on many of the small patches. Such spots and patches continued to appear till the spring, and at the end of March gradually disappeared. The hands and feet were very cold and pained her very much when she got warm. I showed her to the Dermatological Society in March. She clothed the extremities very warmly and shampooed the parts twice daily, but without much evident advantage.

ROSACEA.—I separate cases coming under this denomination from acne, as I believe the two affections to be quite distinct. Rosacea begins usually in a diffuse or patchy hyperæmia of the face, which recurs again and again and becomes permanent, and gradually acneform papules and pustules and telangiectases form, and sometimes hypertrophy of the tissue follows. It has no connection with any follicular plugging. The hyperæmia may result from several causes, such as the direct action of the heat of fires in cooks, or the sun and wind in coachmen, but very frequently it is reflex from catarrh of the stomach or uterine disturbance. In the most frequent class, that arising from stomach catarrh, I find bismuth a most efficient remedy, and locally, soothing lotions are called for if the hyperæmia be active, and stimulant applications in the chronically congested and infiltrated conditions of skin.

Seventeen cases came under notice, 14 of them in women, though this perhaps hardly represents the true proportion in which rosacea affects the sexes. Five cases were between twenty and thirty years of age; 7 between thirty and forty; 3 forty years old and 2 fifty. I have also included 2 cases

of chronic facial hyperæmia aged respectively seventeen and nineteen years.

I tried Kaposi's naphthol ointment (see Scabies) in several cases, and found it effective, though in this form and strength it is somewhat too painful for patients to use. Another remedy which is very cleanly and useful is the Linimentum Potassii Iodidi cum Sapone.

SEBORRHŒA AND LICHEN CIRCINATUS—Believing in the identity of these affections I have grouped them together. I only saw two cases of so-called L. circinatus in the department. In a man of fifty-three wearing flannel, the condition was said to have lasted thirty-one years.

Lichen circinatus.—Over centre of chest are about a dozen patches, raised, red and faintly scaly, very like reddened tinea versicolor, and also a number of isolated congested follicles. A little spot forms and spreads peripherally, and when the size of a split pea gets discoid and then ringed, and the edge in some picked out in tiny papules (congested follicles). On the back nearly to end of dorsal region are about a dozen disseminated patches, but larger than on the front. There are also some tawny stains. The scalp is very irritable and getting bald, and is studded with faintly red patches covered with yellowish fatty plates. The sides of the nose, which is hypertrophied, are red and scaly. He wears flannel, and the skin generally is very greasy.

The following I consider cases of seborrhœa:

Edward W—, æt. 77, has seborrhœa of the scalp and side of the nose, and a number of irritable congested follicles of the chest and trunk.

Emily D—, æt. 32, has seborrhœa of the scalp and face, and a few dry, reddened, rounded patches, covered scantily with scales on the legs, arms, and small of the back. After a careful examination I decided that it was not a case of dry eczema.

Annie H—, æt. 33, has a number of macules on the back and chest, but few on abdomen; also on the thigh and the inside of the arms down to the elbows. The patches are irregularly rounded, and begin as little red macules which enlarge peripherally, and becoming ringed attain the size of a shilling or half crown. The edges of the rings are papillated, and the centres are tawny. There is no itching. Her skin is always very greasy. No fungus can be discovered.

Caroline V—, æt. 21, has ordinary but marked seborrhœa of the scalp, which extends beyond the hair on to the temples and forehead. The nose, eyebrows, and adjoining portions of the face, forehead, and lids are covered with thick, oily, dirty crusts, not friable, but dense and rather soft. The surface beneath them is reddened, and many of the follicles erected. She says she sees drops exude sometimes. Never eczematous discharge. Nothing on the body or limbs;

looks well. Successful treatment by a mild citrine ointment after removal of the crusts.

Sycosis.—The etiology of this affection is very obscure and the successful treatment admittedly difficult in many cases. I do not think there is any one plan of treatment suitable to all cases. Some eruptions I have cured by persisting in bland salves, and others only by the application of stimulants such as Ung. Hydrarg. Nitratis ʒss, Creasoti ♏iv, Glycerin ʒij, Adipem ad ʒj. The pus may be conveniently evacuated from the pustules by pulling out the hairs issuing from the latter, and then bathing the parts in hot water. Patients with sycosis are in my experience always out of health, often dyspeptic, and many are in a very debilitated condition. Those who do not thoroughly understand the character of a hair invaded by the trichophyton fungus always find a difficulty in making a correct diagnosis, but some cases do require a careful microscopical examination of the hairs, as in old-standing cases of sycosis the hairs become dwarfed and distorted and opaque, but not brittle and broken off. In sycosis the eyelids are very often affected.

I have included in this group the case of a man, Geo. F—, æt. 21, whose legs were covered with sycosiform pustules pierced by hairs. He was under my care for several months, and the condition was most obstinate in that it continually recurred.

Syphilis.—I find 70 cases recorded, 57 being acquired syphilis and all but one in adults, and 13 hereditary disease in infants. Of the cases of acquired syphilis 35 were in females and 20 in males. I have tabulated the cases as follows :

Early generalised eruptions :	
Erythematous syphilide	5
Mixed erythematous and papular syphilide . .	6
Ordinary smooth, large, papular syphilide . .	5
Scaly, large, papular syphilide	1
Lenticular syphilide	1
Miliary papular syphilide	2
Large pustular (ecthymatous) syphilide . . .	1

Later relapsing more localised eruptions:	
Acneiform or small pustular syphilide	2
Papular syphilide (3 of them *palmar*)	8
Papulo-tubercular syphilide	4
Tubercular syphilide	17
Pustulating tubercular syphilide	1
Diffuse infiltrating syphilide	1
Nodes	1
Gummata	1
Tertiary ulcers	1

Acquired syphilis in a child.—A child, æt. 3¼, had acquired syphilis in some undetermined manner. Her wrist presented a scar resulting from a sore place which had lately healed. The trunk was covered with a fading erythematous syphilide and some papules, the tonsils were ulcerated, mucous patches existed in the mouth and condylomata at the anus.

Lenticular and ringed syphilide.—A woman, æt. 26, came with a lens-shaped papular syphilide the size of a split pea, sparsely disseminated on the scalp, face, trunk and limbs, typical in colour, and absolutely non-scaly with the exception of one or two papules. Three or four weeks later this eruption had mostly disappeared, but beautiful, delicately bordered rings had developed from some on the neck.

Pigmentary syphilide.—A woman, æt. 42, attended all the year off and on with a relapsing tubercular syphilide. She was the subject of the most large-patterned pigmentary syphilide of the neck I have ever seen. It was absolutely identical with leucoderma in the oval and rounded blanched areas, enlarging into the hyper-pigmented territory beyond. I showed her at the Dermatological Society.

Hereditary syphilis.—Several very interesting cases were seen and one is almost unique.

William S—, æt. 10 weeks, with snuffles, hoarseness, dirty pallor of skin, and an eroded papular syphilide of the face and scalp, covered with dirty greenish crusts, following an erythematous eruption of the genitalia and buttocks, had thickening of the upper part of right radius and ulna with "pseudo-paralysis" of the right arm, and a hard swelling (*dactylitis*) of the proximal segment of the index finger of the right hand. The case soon disappeared from observation.

I was enabled also to demonstrate a second case of "osteo-chondritis" of the right arm in a male infant aged

fourteen weeks. The child was born with this condition, and afterwards developed a copious syphilitic eruption.

Alopecia.—Dr. Thomas Barlow and the late Professor Parrot have written on the subject of alopecia in hereditary syphilis. It is very common to note the gradual loss of hair over the temples, and a more general defluvium is not infrequent, and was illustrated in two of the cases. A total baldness is rarer, but I have seen it a good many times. The child may be born totally bald or become so soon after birth. The hair always grows again, as far as I have observed, in a few months under the influence of mercury.

William J—, æt. 4 months, the sixth child, born at full time, snuffles, hoarse, syphilitic eruptions, and physiognomy, shotty glands, earthy pallor and enlarged spleen, completely lost the hair of his head and eyebrows and the eyelashes after birth, and became totally bald. Under mercurial treatment all the hair was growing at five months old.

TINEA VERSICOLOR.—Five males and three females came for treatment, and the ages were eighteen years (2), twenty-two (2), twenty-six, twenty-eight, and thirty-three. In 4 cases the parasite had spread to the neck and down the limbs to elbows and over the thighs. In one it commenced in the groin. The degree of itching present was very variable.

TINEA TRICHOPHYTINA.—Only one case of so-called eczema marginatum was seen in the person of a man who had a faint erythematous patch the size of the palm, with a distinct bordering, spreading from the groin over the thigh. It itched when he was hot. Children in the house had tinea tonsurans.

T. trichophytina barbæ.—In the 7 cases the presence of the fungus was demonstrated. In 2 early cases the rings present at once suggested ringworm, and in a third there was a beautifully perfect ring of vesicles on the point of the chin, with much swelling, so that one was reminded of anthrax. In the others diseased hairs were demonstrated over the scurfy patches, and in 2 cases there were in addition large nodosities scattered about, especially along the border of the jaw.

T. trichophytina tonsurans and alopecia areata.—George J—, æt. 8, presented two patches of ringworm of the scalp,

and also two perfectly typical, smooth, atrophic patches of alopecia areata over which no fungus could be demonstrated.

I have been trying systematically for some time past the copper salts in ringworm. The oleate of copper has proved in my hands a very inferior remedy, and I have given it a prolonged trial. The old-fashioned verdigris ointment, a drachm to the ounce of resin ointment, is the one I like best. The hair *must* be kept shaved, and the ointment thoroughly scrubbed off each morning with soft soap. The great majority of children stand this very well. A word of caution, however, must be given, for now and again a child is met with whose head inflames at the slightest irritation, and severe abscesses may be set up very rapidly. Therefore at first I feel my way carefully.

URTICARIA.—Several very severe cases attended, but do not call for special remark. Of the remarkable form peculiar to children, and described by Bateman as lichen urticatus, 10 cases were seen, 4 in males and 6 in females, and all between the ages of five months and two and a half years old. Seven were under two years old, and in many the affection had existed since birth. Several had been treated elsewhere for scabies. The diagnosis and treatment I considered last year.

VARIOLOID.—The following case interested me very much, and I was glad of the opportunity of discussing it as students rarely see much of smallpox. I have never seen anything quite like it before, although familiar with the disease and the occasional roseolar rashes which usher it in, owing to my former residence as Medical Superintendent of the Fulham Smallpox Hospital.

Emily B—, æt. 17, a servant girl, applied for relief May 27th, 1885. Has had backache for two or three days, and was sick two or three days ago. Been feverish and very hot in bed at night. Temperature now 100·2°. Tongue coated, headache, slight sore-throat. The arms to the elbows are covered with a fine-patterned roseola, something like measles, but not so raised, and there are discrete and confluent punctæ to the finger-tips. The legs are similarly affected to the knees, but here the rash is purpuric and the skin puffy. This roseola appeared on the morning of the 25th and was shortly succeeded by hard shotty papules

and pustules, of which there are about twenty disseminated on the face, also a few on the neck and upper half of the trunk especially. One or two pustules on the face were umbilicate. The girl was subject to a very little acne, but I could find no comedones.

The extreme difficulty in making a correct diagnosis in some cases of mild varioloid is well known. A case of varioloid may be almost devoid of symptoms; any fever present may suddenly decline directly the eruption appears, and the latter may be exceedingly scanty and vary a good deal in character. Moreover the stages may be very irregular, and the case be further complicated by the presence of acne. Sometimes a comparatively acute development of the latter with severe dyspeptic symptoms may embarrass one.

FIVE CASES

OF

PNEUMONIA WITHOUT PHYSICAL SIGNS OF LUNG CONSOLIDATION.

By Dr. SYERS.

The five following cases are of interest as bearing upon the question of the nature of pneumonia, whether it be a local inflammation attended with pyrexia or a general disease of which the lung affection is one expression which may in different cases be present or absent. In each case the onset of the illness was sudden, the temperature high and falling by crisis; labial herpes was present, and both the aspect and pulse-respiration ratio were typically those of pneumonia; yet in none of the cases was there any physical sign of the presence of consolidated lung. It has been pointed out by Jürgensen and others who support the view of pneumonia being a fever that there is no constant relation between the local inflammation and the febrile symptoms. And these five cases would certainly give weight to the same view by showing that it is possible for all the typical symptoms to be present and yet physical signs to be entirely absent. It may, of course, be said that lung consolidation existed, but that owing either to the situation of the patch or to the smallness of its size it failed to make its presence sensible to the observer either by auscultation or percussion. Without

denying the force of this comment, it may be mentioned that the examination of the patients was frequent and thorough, and that therefore if any abnormal breath-sound or any crepitation or loss of resonance to percussion had existed it seems scarcely possible that it could have escaped detection. It may be added, that in all the cases, with one exception, the age of the patient was under nine years, and that all the patients were males.

The following cases were all under the care of Dr. Sturges.

Case 1.—Robert P—, æt. 7, admitted April 19th.

The child's health had always been good. He was taken ill on April 17th, complaining of sickness, diarrhœa, shivering, and cough; he was kept in bed at home until admission.

On admission the child's face was flushed, and there was well-marked labial herpes. The respirations were 52 and the pulse 140. The tongue was dry in the centre, coated at the edges with white fur. The chest was carefully examined; neither dulness nor tubular breathing could anywhere be discovered, and the breath-sounds were unaccompanied with crepitation. The heart-sounds were clear. The temperature on admission was 100·4°, at midnight it was 103°. The urine was acid, sp. gr. 1028, containing no albumen. The condition remained the same until the night of the 20th. At 8 p.m. on that day the temperature was 104°. By 4 a.m. on the 21st it had fallen to 98·6°. The fall of temperature was followed by the favorable change observed in connection with the critical fall of a pneumonic temperature, it being noted that the pulse had fallen to 96 and the respiration to 28 the next morning, and that the child was brighter and interested in looking at pictures. The herpetic eruption was still well marked. The most careful examination failed to reveal any abnormal sound within the chest. The patient rapidly improved, the temperature remaining normal and subnormal, and he left the hospital on April 30th quite well.

Case 2.—John B—, æt. 7, admitted July 19th. The child's health had always been good. He was quite well until July 18th, when he became rather suddenly "feverish" and sick, complaining of pain in the head and limbs, and losing appetite. On admission, the child's face was flushed, his

skin was hot and dry, and there was labial herpes. The pulse was 136 and the respiration 48. The temperature was 104°. There was no dulness over the chest and the breath-sounds were healthy. The condition was unaltered during the next day and at night the temperature was 103°. By the morning of July 21st the temperature had fallen to 98·8°, and the general appearance of the child had much improved. The pulse was less frequent and the rate of breathing also had diminished. No abnormal sounds were audible in the chest. The child rapidly improved, the temperature remaining normal, and he was discharged well on July 29th.

Case 3.—Charles W—, æt. 5, admitted October 29th. The patient had measles one and a half years before admission, had been subject to cough occasionally since, but his health had been generally good.

He was quite well until the evening of October 26th. He had been to school as usual on that day. Shortly after going to bed he woke up complaining of headache and of sickness. He vomited several times during the night and the next day, when also he was delirious. His skin was noticed to be very hot and there was much prostration. He remained in the same condition until he was brought to the hospital. There was complete loss of appetite from the commencement of the illness. On admission the child had a distressed aspect, the alæ nasi were moving with respiration, the face was flushed, and there was well-marked herpetic eruption on the lower lip. The temperature was 102°, the pulse 128, and the respirations 52. Skin very hot and dry. There was no dulness over the chest, and auscultation revealed no abnormal sound. The urine was non-albuminous. The patient was delirious during the night and very restless. The temperature the next morning was 103°. Examination of the chest showed nothing abnormal. The condition remained the same during the next two days, the temperature remaining high. At midnight on November 2nd it was 101·4°. A few hours later it had fallen to 97·4°. The next morning the child was brighter, the skin cooler and moist, and the pulse and respiration both less frequent, the former being 108, the latter 32. The child rapidly recovered,

the temperature remaining normal and subnormal, and he left the hospital on November 11th.

Case 4.—Edward C—, æt. 7, admitted November 4th. With the exception of measles and whooping-cough the patient had suffered no previous illness.

He was in his usual health until three days before admission, when he shivered and complained of headache. He took to his bed and remained there until admission. He had been sick several times before admission, and an eruption on the lips had been noticed on the day before he was brought to the hospital. The child on admission had a flushed face, movement of the alæ nasi, and an abundant eruption of herpes on the upper lip. The temperature was 101·6°. There was no dulness anywhere over the chest, and the breath-sounds were clear. The respirations were 30, and the pulse 140. The urine contained no albumen. The temperature the next morning at 8 o'clock was 103°, it remained high during the day, but fell from 102·6° to 99·8° in the four hours 8—12 (midnight). Nothing abnormal was discovered in the chest, and the condition remained the same until 12 noon on the 6th (sixth day of disease); the temperature at that time was 103°. In the course of the next twelve hours a critical fall occurred, and at midnight it was 98°. The fall, as in the preceding case, was attended with a favorable change in the general condition; the rate of pulse and respiration falling, and the aspect of the patient becoming brighter. There was no sweating at the time of the fall. The next day the temperature remained normal, and the herpetic eruption was drying up. Early on the morning of the 8th the temperature rose from 98° to 101·2°, but four hours later was again normal, and remained so until the discharge of the patient, quite recovered, on November 11th.

Case 5.—J. G—, æt. 22, admitted November 10th. The patient's previous health had been good. His illness commenced on November 9th. On that day he had a severe rigor and a sharp pain in the right side of the chest, he also complained of cough. He took to bed on the same day, and remained in bed until admission.

On admission the patient was well nourished. His skin was hot, and he had a well-marked herpetic eruption on the upper lip. His pulse and respiration were both quickened, and he complained of severe pain in the right side of chest on drawing a deep breath. His temperature on admission was 102·6°. The chest was everywhere resonant on percussion, and the breath-sounds were quite clear. The urine was acid, sp. gr. 1032, containing no albumen. His temperature fell during the night, and at 8 a.m. on the 11th was 99°. It rose again during the day, and at 12 midnight was 100·8°. On the 12th the patient presented a more distressed appearance, and he was very prostrate. The temperature rapidly rose during this day, and at 4 p.m. was 104·2°. The chest was resonant on percussion, and the breath-sounds were not altered in quality or accompanied by abnormal sounds. His respirations were 30 to the minute and pulse 116. His condition was unaltered on the morning of the 13th, but his temperature fell to normal during the afternoon and evening of this day. This fall was accompanied with profuse sweating. On the 14th he had lost the distressed expression which was previously noticeable. His pulse was 60, and respiration 22. The temperature rose during the morning from normal to 100·4°, it then fell to 96·8°, and remained subnormal until his discharge on November 22nd. Careful and repeated examination of the chest after the fall of temperature revealed nothing abnormal. On leaving the hospital he expressed himself as feeling quite well in all respects.

SHORT NOTES AND CASES.

CASE OF TUBERCULOSIS OF THE SKIN.

By Dr. HEBB.

The following case was during the lifetime of the patient considered to be an example of that cutaneous malady known as elephantiasis arabum alias Barbadoes leg. The case was under the care of Mr. Cowell and was under observation for a considerable period of time. It was shown to many medical men, and on more than one occasion to foreign members of the profession visiting London for the session of the International Medical Congress. No exception was ever taken to the diagnosis, although the absence of pigmentation, and the fact that the patient had never been beyond the environs of London, might have raised some *primâ facie* doubts. The history of the case, as obtained from the patient and his mother, is as follows:

Henry J— was at the time of his death, March 2nd, 1884, aged eighteen years. He was the youngest of four children; the other three are alive and quite healthy. His father—always a temperate man—died at the age of fifty-three of consumption, after an illness lasting eighteen months. During youth the patient only suffered from measles and whooping-cough.

When about six years of age the glands on both sides of the neck began to swell. Those in the left side subsequently suppurated. The leg affection commenced after the cervical swelling, but the exact date of onset cannot be ascertained. But about the manner of commencement the mother is certain that some red spots of irregular shape appeared on the dorsum

and towards the inner ankle of the left foot. Next, these spots began to discharge. The sores did not heal for a long time and were always apparently quite superficial.

About two years after the onset of the rash, a thickening of the skin of the dorsum of this foot was first noticed. The cutaneous thickening gradually increased; and finally, that is, after a period of ten years, implicated the skin of the left lower extremity from the toes to as far as just below the knee. At this time the skin of the foot and of the lower third of the leg resembled a continuous mass of warts; the warty condition decreased sensibly towards the middle of the leg, but here the thickness of the skin was still great and only terminated in the upper third, where it passed into the healthy skin just below the knee-cap. But although the wart-like condition was wanting in the upper half of the leg the skin was rendered uneven by the presence of numerous elevations situated in the corium. Throughout the limb the pachydermatous condition was more advanced on the anterior than on the posterior aspect.

There were a few small and quite superficial ulcerations. For this condition the patient was twice an in-patient at Westminster Hospital, from July 28th, 1881, to October 3rd, 1881, and from February 18th to March 2nd, 1884, the date of his death.

The cause of death was apparently weakness accelerated by bronchitis, for with this exception no lesion of any sort was found, although the brain, cord, thorax, and abdomen were most carefully explored.

The result of microscopical examination of the affected skin was as follows: "As a general statement it may be said that there is hypertrophy of the constituent elements of the skin *plus* the existence of certain nodular aggregations of cells accompanied by their mechanical effects, and, more in detail, that in places the epidermis sends inwards long tubular prolongations, while in others these epidermic ingrowths are *flask shaped*. The dermis throughout is much thickened, in part from over growth of its connective-tissue elements, but in greater measure the thickening is due to the presence of collections of small, indifferent, lymphoid cells. In many places, however, there are aggregations of

the larger lymphoid cells. The lymphatic vessels are extremely numerous. In some places they run straight upwards like rigid tubes, in others, as in the papillæ, they are seen as varicose dilatations. The coats of the arteries are much thickened, resembling those of the kidney in a case of advanced contracted kidney. The sweat-glands are frequent, and for the most part quite normal. An occasional Pacinian body, numerous tactile corpuscles, and a few hairs were observed. Special attention is called to the fact that the cutis is beset with nodular aggregations of lymphoid elements, both small and great; that among these are scattered numerous *giant*-cells, and that these spheroidal masses are practically indistinguishable from tubercles such as are found in the liver and kidney. The case is therefore one of tuberculosis of the skin. And as, nowadays, a microscopical examination is not considered complete without the demonstration of a micro-organism, it may be stated that in the lymphatics a red-staining, acid-resisting, small bacillus, indistinguishable from bacillus tuberculosis, is present in considerable numbers. Colonies have also been found amid the aggregations of lymphoid cells."

In conclusion it only remains to point out that tuberculosis of the skin may simulate the aspect of elephantiasis arabum, and that this appearance of pachydermia must be due to the fact that the same anatomical parts are affected as are involved in the true Barbadoes leg, namely, *the lymphatics*.

With regard to several points the case is, however, not unique. In the 'Medical Times' for 1878 the late Dr. Tilbury Fox records a case with almost similar appearances and history. Here, too, the patient had never been out of England. But Dr. Tilbury Fox makes no allusion to tubercle, either during the clinical history or microscopical investigation. In this important particular the case reported by Dr. Fox differs very materially from that under consideration. By the kindness of Dr. Colcott Fox I have been enabled to examine the microscopical specimens of the case alluded to. They bear *no* trace of tubercle. There is merely hypertrophy of cutis (chiefly) elements, with linear

aggregations of indifferent lymphoid cells about a few vessels. There are no nodular aggregations, and there are no giant-cells.

There are two points not previously noticed in connection with this case which I will allude to in a few words. The first is the existence of giant-cells within the thickened epidermis-layer. About the origin of giant-cells there is considerable dispute; one view, which is commonly adopted, being that they always are developed in connection with blood-vessels. For various reasons I have never rigidly held this view, and I am supported in my opinion by the present case. In pathology, as in medicine, there is no "must," and even *a priori* I should have felt inclined to dispute the vascular doctrine on general grounds.

The second point refers to the question whether the condition just described was an unusual form of lupus. In reply to this I need only say that all I am concerned with is to show that the case is a tuberculosis of the skin. On this point the microscopical appearances are quite conclusive. To raise the question of lupus is not for me. That lupus may be a tuberculosis is quite another affair, but whatever it may be is not settled yet, as anyone can convince himself by taking a few authorities on skin diseases and comparing their ideas. All hold different views. Consequently my position with regard to this case is doubly safe, for I have proved my theory, while the problem of lupus is still unsolved.

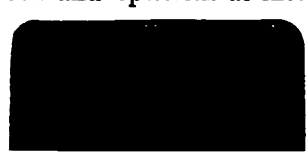
CASE

OF

EXOPHTHALMIC GOITRE TERMINATING FATALLY.

REPORTED BY DR. SYERS.

M. S—, æt. 18, a servant, was admitted to Hallett Ward under Dr. Donkin, April 24th, 1885, suffering from excited action of the heart with enlargement of the thyroid gland and marked protrusion of the eyeballs. Her general health had been good until nine months before admission, when she first noticed palpitation on excitement, and shortly afterwards whilst at rest also. About three months ago it was noticed by her fellow-servants that her eyes were more prominent than formerly, and that her neck was becoming fuller. It is thought that the prominence of the neck has become rather less lately; the condition of the eyes has remained the same. Catamenia quite regular until six months ago; complete amenorrhœa from that time to the present. She had suffered a good deal for some months from frontal headache; this became so severe three weeks before admission as to oblige her to give up work, the palpitation likewise being more marked during the last three weeks. Her mother states that since the illness commenced the patient is greatly altered in disposition, being irritable and impatient. She has been sleeping badly lately and has got thinner. The patient says she has had slight cough, and that about three months ago she had slight spitting of blood and epistaxis at intervals of



a week. There is no history of previous illness, nor of mental trouble; a good deal of hard work lately.

Family history generally good, but the patient has a sister with somewhat similar symptoms.

On admission the patient was anæmic and very weak. The heart's action was violent and the breathing rapid. The eyes were prominent, much sclerotic showing above the cornea, the eyelids not following the movements of the eyeballs, and not quite covering the globe when closed. Well-marked enlargement of thyroid gland, the right side being rather the larger. Pulse 112, respirations 32. The heart was slightly, but not markedly enlarged, the impulse being very forcible. A loud systolic murmur was heard over region of the pulmonary artery and in the carotids. Aortic pulsation was well marked in the abdomen. The physical signs of the lungs were normal on admission. There was no œdema of any part of the body. The patient's movements were jerky, almost choreic in character, and she was very excitable. The abdominal organs were apparently normal. There was no albumen in the urine.

After a few days' residence in the hospital the patient became more excitable, and on the 29th the temperature, previously normal, rose to 102°. At the same time the patient complained of sore-throat, examination revealing patchy follicular tonsillitis. On May 1st diarrhœa set in, and the tongue became very dry and brown. The diarrhœa was severe and did not yield to remedies. There was also constant sickness, which abated somewhat the next day. The abdomen was somewhat tender, and some gurgling was elicited by pressure. There was a very marked tendency to the formation of bedsores, especially about the iliac spines. The temperature on the morning of May 1st fell to 93°, rising the same evening to 101·6°. On May 3rd the patient became very restless, having been delirious the previous night. She complained of some pain in the abdomen, though there was no tenderness on pressure and no distension. The diarrhœa continued, being very profuse. The temperature the previous evening rose to 103·6°, and during the 3rd continued about 102°. The pulse was 160 and the respirations 50. The urine was acid, 1022, and contained a trace of

albumen. On May 4th the patient was still weaker, though very excitable and extremely restless. The pulse, which was small and wiry, amounted in frequency to over 200. The breathing was very shallow and rapid. The patient became semi-comatose and passed motions into the bed. Abdominal examination revealed nothing further. The chest was not examined on account of the extremely exhausted condition of the patient. The tongue was dry, brown, and fissured, and sordes appeared on the teeth. The temperature varied from 101·2° to 102·6°. All the symptoms increased in severity, and the patient died in the afternoon of this day apparently from exhaustion.

The post-mortem was made by Dr. Hebb on the day following death. The appearances were as follows :—"There was very recent right pleurisy and peritonitis, chiefly on the right side near the diaphragm, the peritonitis being probably due to extension. The mucous coat of intestines was in a catarrhal condition, and Peyer's patches and Lieberkühn's follicles were enlarged and softened. The thyroid was enlarged parenchymatously, and the enlargement was especially marked on the right side. The liver and kidneys were somewhat congested. There was general bronchitis. The left ventricle of the heart was hypertrophied. Dr. Hebb examined microscopically the cervical ganglia and found the structure perfectly normal in all respects.

In this case the usual symptoms of exophthalmic goitre, both physical and mental, were well marked. A very prominent feature of the case was the presence of diarrhœa, which is by many authors mentioned as a serious and sometimes fatal symptom. Dr. Savage, in 'Guy's Hospital Reports,' vol. xxvi, records two fatal cases of the disease occurring in association with mental derangement at Bethlem Hospital, in both of which obstinate diarrhœa was a forerunner of the fatal termination. Most, if not all, the cases of Graves's disease appear to present some mental abnormality, and the present case afforded no exception to the general rule, the change in disposition being sufficiently marked to cause the mother of the patient to volunteer the statement that she was "not like the same girl," being wayward and irritable from the commencement of the illness.

In this connection it is interesting to note that Dr. Savage, as referred to above, has recorded several cases in which very marked mental derangement, necessitating the seclusion of the patient, was present. In these cases the chief mental symptoms were great excitement, accompanied with delirium of various kinds, alternating with periods of depression. The examination of the cervical sympathetic yielded negative results in this case, thus being in complete accord with the cases related by Dr. Savage, in all of which the appearances microscopically were perfectly normal. The enlargement of the thyroid was found to be purely parenchymatous.

In most fatal cases of this disease death is accelerated by the oncoming of some intercurrent affection, chiefly of the lungs, and the present case offered no exception to the rule; the acute pleurisy which developed very shortly before death doubtless hastened the end. The case is recorded as being one in which all the usual symptoms were well developed, and which, contrary to the general rule, progressed steadily and swiftly to a fatal termination.

P.S. by Dr. DONKIN.—It is to be remembered how often cases of this affection are found in connection with hysteria and functional nervous disorder, and not always in the female sex. The over-action of the heart often occurs as the only noticeable symptom for some time, the others developing later or not at all. These cases are often overlooked. The mental relations of this disease have been dwelt upon pointedly by Trousseau.

AN ANOMALOUS CASE

OF

PROBABLE SPINAL PARALYSIS, WITH COMPLETE RECOVERY.

By Dr. DONKIN and Dr. SYERS.

A. S—, æt. 27, a cellarman, admitted under Dr. Donkin, February 5th, 1886.

The patient was in good health until five days before admission. On the evening of February 1st he had a severe pain in the back, chiefly in the lumbar region, and headache. After a restless night the next morning he found he could not stand owing to pain in the knees, described as of shooting character. He remained in bed all day. The next day he was able to walk, but the weakness of legs continued. He walked to the hospital. No bladder or rectum trouble existed.

There was no history of any injury, exposure, or any extra work. Though he had been a free drinker, for the last fourteen months he had been a total abstainer. There was no history or sign of syphilis, and nothing remarkable, nervous or otherwise, in the family history. A brother of his was in hospital at the same time suffering from aortic aneurysm.

On admission the patient appeared to be healthy and well nourished. He complained of difficulty in walking, of inability to stand steadily, of shooting pains in the thighs and knees, and of "numb" sensations in both feet. He could walk, but his gait was very feeble and unsteady, and

he had to grasp surrounding objects to keep himself from falling. As he walked, his eyes followed the movements of his feet. There was slight rigidity of knees and ankles, easily overcome by passive movements. No tenderness or other abnormality appeared on examination of the spine. The pupils were widely dilated, equal and acting both to light and accommodation. The knee-jerk was greatly exaggerated on both sides, most on left, and there was on both sides slight ankle-clonus. Plantar reflexes well-marked, as well as cremateric, epigastric and abdominal. The dorsal also were brisk, but the interscapular were not obtained. The movement and power of the upper extremities seemed normal, the muscles of the face were not affected. The special senses were normal, as also common sensibility. No bladder or rectum trouble. The tongue was clean and the temperature normal. No sign or symptom of any chest mischief. Urine acid, sp. gr. 1030, urates, no albumen.

The following day, February 6th, the patient complained of severe pain in the lumbar region, and in the knees. He could only just walk, and without support would have fallen. The knee-jerks were very brisk, especially on the left side, and the ankle-clonus was more marked than on admission. There was brisk reaction to the triceps tendon-tap on both sides. Common sensibility was everywhere normal. There was free movement of the arms, but the grasp of the hands was very feeble.

On the next day, the 7th, the patient was unable to stand. The knee-jerks and superficial reflexes were as before. Slight irritation of the left lower extremity caused marked trepidation confined to this extremity. The grasp of the hands was practically nil.

On the 8th he was still unable to stand, and complained of drawing pains in the back of the thighs and of a feeling of numbness in both legs from the knees to the feet. The movements of the legs when lying in bed, especially those of extension, were slowly and feebly performed. On this day the patient was ordered, in the absence of Dr. Donkin for a day or two, twenty grains of chloral hydrate and thirty grains of bromide of potassium every six hours, of which, however, but about four or five doses were taken.

On the 12th his condition as regards pain was as before. The knee-jerks were less brisk; and distinct ankle-clonus could be obtained only on the right side. Sensibility still normal, as also the functions of bladder and rectum.

On the 13th he was still unable to stand. There was no wasting of muscles, which, however, were generally flabby. Only a very slight ankle-clonus was obtained on either side. There was some rigidity of knee and ankle-joints.

On the 15th the patient could walk a little with assistance, and there was no pain anywhere. The hand grasp was stronger. There was henceforth rapid improvement.

On the 18th he could walk unassisted. There was on this day still a very slight ankle-clonus. The knee-jerks were lively as compared with most, but much less marked than they had been. The grasp of both hands was very good. The tendon and muscular irritability to percussion was generally normal.

The patient left the hospital on February 27th, in apparently complete health, with no abnormal sign or symptom.

The temperature throughout the case was normal, and electrical examination showed no marked change of reaction in nerve or muscle, either at the height of the symptoms or after recovery. Certainly there was no qualitative alteration.

Remarks by Dr. DONKIN.—I have to give my best thanks to Dr. Syers for his careful observation and noting of this interesting case, the rapid course and recovery of which rendered frequent examination of great importance.

I have called the case by the above vague title, because it seems to be one which cannot be surely placed in any definite category of contemporary nosology, which is ever a shifting classification, especially in the case of nervous affections, as increased clinical and pathological study either adds to our knowledge, or, as often, shows that our fancied advancement is not sound. The evil tendency to hasten to give a definite pathological name to cases, for instance, of paralysis or the nervous disorders, which is such a besetting sin with students and writers, is strikingly shown in the case of locomotor ataxy, which as, Dr. Wilks has so well shown, has

now acquired such a wide symptomatology that both its definition and its generally received pathology are clearly inconsistent with clinical facts. An undue desire for unification has here helped to obscure rather than advance the study of the various affections which may have as some of their characters inco-ordination of movement, or other symptoms which are so generally referred to disease of the columns of Burdach.

In speaking of this case as one of probable spinal affection, I do not by any means intend to exclude affections of the spinal membranes, for in many of its characters it does not seem unlike a slight attack of spinal lepto-meningitis. Nevertheless, the absence of all increased pain on movement, either of trunk or limbs, of all tenderness on pressure, the completely non-febrile condition throughout, and the rapid recovery, should make us hesitate before referring the case unconditionally to this cause.

Some who saw this case were inclined to regard it as one of acute spastic paralysis, or "irritable weakness" of the spinal cord, owning the same pathology, whatever that may be, of the more chronic form which is said to be often associated with lateral sclerosis. That weakness of the legs, and afterwards of the arms, with some spasm, and marked increase of both the superficial and deep reflexes, were prominent symptoms in this case, is clear from the above notes; but it must not be forgotton that pain in the back was the first and a most leading symptom; and that the pain and the motor weakness receded together.

These facts seem to me to be against classifying this case clinically with so-called spastic paralysis, which is essentially a chronic affection, of gradual onset, and very gradual recovery, in those few cases which, whether "functional" or not, do certainly recover. And in these cases pain is either a very slight symptom, or generally altogether absent. I was at one time inclined to regard this case as possibly the earliest stage of an acute anterior poliomyelitis, taking into consideration the rapid onset of the motor symptoms, and this, in spite of the fact of the increased reflexes. For we know so little, if anything, of the condition of the reflexes, and the electrical reactions at the onset of this malady, even in

children, who are its most common subjects, that we cannot exclude a stage of possible irritability, when the reflexes might be increased and the electrical reactions might show at least no tendency towards an indication of degeneration. But the progress of the case, though not completely negativing this suggestion, certainly lent no colour to it; for no distinctive symptoms appeared, recovery setting in so rapidly. May it have been, as it were, an abortive attack of this malady? On the whole, considering the motor and sensory phenomena, and not forgetting a certain degree of ataxia which the patient evinced while walking, I am inclined to regard this case as probably one of slight meningitis or of some generalised but slight congestive or inflammatory affection of the cord chiefly involving the cervical and lumbar enlargements.

I cannot, even if its clinical picture had coincided more than it does with those cases described lately by Dr. Buzzard as "multiple neuritis," look upon this hypothetical explanation as in any degree satisfactory, though it was also suggested in the course of the case, for after a careful perusal of Dr. Buzzard's lectures on the subject, which are full of interesting cases, one comes to the inevitable conclusion that, just in proportion as the supposed "neuritis" is evidently "multiple," so the differential diagnosis between it and spinal myelitis or meningitis is difficult or impossible. This seems to me to follow from, or to be almost implied in, Dr. Buzzard's own comments at the end of his lectures. And it must be admitted that the symmetrical and generalised distribution of the symptoms in his cases of "multiple neuritis" points so strongly to a central origin in the cord or its investing membranes that it would require the existence of far more valid reasons than he has brought forward to give much plausibility to such an unlikely pathological occurrence as peripheral neuritis of this special form.

There was absolutely nothing in the family or personal history of the case to throw any ætiological light on its nature. The treatment indicated seemed to be only complete rest. A blister or two on the back at the seat of pain seemed to relieve this symptom. The question of any further treatment was removed by the rapid and complete recovery of the patient.

A CASE

OF

REMARKABLY SLOW ACTION OF THE HEART.

By W. A. WILLS.

Alfred H—, a labourer, living at Faringdon, in Berkshire, was admitted into King William Ward under Dr. Sturges on Sept. 24th, 1885, suffering from shortness of breath and pain in the epigastrium, these symptoms being accompanied by extreme slowness of the heart's action.

The history of the onset of this condition was as follows:—The patient, who was in excellent health, was one day in Aug., 1883, engaged in doing an exceptionally hard day's work, which consisted in lifting up and carrying about 125 sacks of wheat from the railway platform to his cart. He finished his job and felt no inconvenience from it. As he was coming home walking beside his cart, about half an hour afterwards, he suddenly felt a sensation of darkness before the eyes and became unconscious. He was told that he fell down and rolled into the ditch, remaining unconscious about four minutes. When he recovered consciousness he resumed his walk by his cart, feeling considerable pain, which he referred to the epigastrium.

The same night he was very sick, but he resumed work next day, and kept at it for a month afterwards. He then gave up work on account of the continuance of the pain and some shortness of breath. During this period he had several

similar attacks of sudden unconsciousness. He remained at home for seven months, and resumed work in July, 1884. During this time he had several similar attacks, but they were more frequent, and often followed one another rapidly in the same day. He continued at work until Oct., 1884, but then was finally obliged to give it up on account of the increasing number of these attacks and the increased shortness of breath.

He remained in bed for three months during the winter of 1884, and has since been sitting up in his garden, but doing no work. This state continued until his admission into the hospital.

He had always had good health. No rheumatism or rheumatic fever. No syphilis, no fits. He had been a moderate beer drinker, but took no spirits. He had always been a hard worker.

Family history excellent. No history of any neurosis in the family.

On admission the patient was noted as being of a fresh complexion and well nourished. He is lying high in his bed, as he cannot breathe well when his head is low.

He complains of pain in the cardiac region, which is almost constant, of an aching character, shooting at times down the arms to the wrist and sometimes extending to the legs. He also complains of pain in the frontal region. As he was entering the ward he became momentarily unconscious and would have fallen if he had not been supported.

The heart's apex beat was in the nipple line and fifth interspace, somewhat feeble in character. The area of precordial dulness was slightly increased to the right and extended to the point of apex beat. There was a soft systolic murmur heard most plainly at apex, but faintly audible over the whole precordial area. The second sound appeared to be quite clear. The action of the heart was extremely irregular, appearing to beat three or four times in succession at a fairly normal rate, then pausing for some seconds, this cycle being constantly repeated. There appeared to be an occasional abortive beat during the pause.

The radial pulses had much the same character, the pulse-rate per minute being 26, beating in groups of 3 or 4 (the

beats of which varied somewhat in force), succeeded by a pause during which no pulse could be felt. The two pulses were equal. There were a few rhonchal sounds in the chest, but no dulness.

The pupils were equal and acted to light and accommodation.

There was no œdema of the legs. Temperature was subnormal (about 1°.) Urine 1026, acid, a decided trace of albumen.

Sept. 27th.—Has lost consciousness momentarily the last two nights. Pulse now 28.

30th.—Pulse 30. Is taking Tinct. Digit., ɱviij, 6tis horis.

During the night of October 4th he had two attacks of unconsciousness. Pulse fell to 17, rising again next morning to 22.

On October 6th the digitalis was stopped. Pulse 22.

He was better until the 9th, when he had a worse attack of dyspnœa than usual, which continued all through the night, accompanied by much retching. Temp. 96°; pulse 23; resp. 40, very anxious and depressed.

A good deal of pain and sickness during the next three days until October 13th, when he was better. Pulse rose that day to 60, being perfectly regular, and a sphygmographic tracing taken then was quite normal in character, but it fell in the evening to 24.

On the 14th his temperature was 96°, pulse 24, quite regular, the upstroke and top of the tracing being normal but the downstroke much prolonged, with a slight wave in the middle, possibly indicative of an abortive beat.

15th.—Pulse 56 at 8 a.m., 36 at 12 noon, temp. 95·8°.

16th.—At 12 noon pulse 30, beating in groups of about nine beats which are quite regular, succeeded by a pause of fifteen seconds, during which the sphygmographic needle gradually fell almost to the base line and continued there without moving, then began to move upwards, again indicating beats of a gradually increasing force, until in about three beats it had reached the normal height.

17th.—Pulse rose to 76 to-day.

On the 19th he left the hospital at his own request to go home as he felt no better.

Through the kindness of Dr. Maskelyne, of Faringdon, by

whom the patient was sent to the hospital and under whose care he had been, some further details of the case were obtained.

He continued in much the same condition, having frequent attacks of dyspnœa and suffering a good deal of pain. The heart's action continued of the same character, the rate being usually about 24 to 20 per minute, there being apparently an abortive beat between each of the fuller beats, which generated a pulse wave at the wrists, this went on until September 29th, 1886, on which date he died. The heart's action getting gradually weaker for a few days before his death.

A post-mortem examination was made by Dr. Maskelyne, who found the organs of the body generally healthy, except the heart, which he sent up to Westminster Hospital for examination. Apparently neither the brain, cord nor nerves were examined. The heart was large, weighing $12\frac{3}{4}$ oz., somewhat globular in form. The cavities were generally dilated and their walls very thin, that of the left ventricle being only $\frac{7}{16}$ in., and the right ventricle only as thick as brown paper. There was some epicardial fat. The muscle was firm. The mitral valve measured 5 in., the aortic 3 in., the tricuspid $5\frac{3}{4}$, and the pulmonary $2\frac{7}{8}$ in. There was no endocarditis. Coronary valves quite patent and healthy. Microscopically the muscle appeared quite healthy, the sarcolemma being well defined and the striation perfect. There was no trace of fatty degeneration. There were a few yellowish crystals near the nuclei, but not an unusual quantity.

I have ventured to publish this case, in spite of no accurate diagnosis being made during life or even after death, because it seems a sufficiently unusual one to be put upon record.

The case is curious as showing how long a man may continue to exist with a heart which acted with such exceeding irregularity that every nine or ten beats it apparently paused altogether for a space of nearly ten seconds, or else acted so slowly that every beat took three or four seconds to complete itself. And yet the patient did not seem to be much worse during those periods than when his

heart was acting in the usual manner, as it often did in the intervals.

With reference to the diagnosis of the case several suggestions were made. Either that it was due to some disease of the valves, or of the coronary arteries, or else that the slow action of the heart was due to some extrinsic nervous influence, probably reaching it through the pneumogastric nerve, the latter theory being considered most probable. The post-mortem revealed that neither of the first two conditions were present, and therefore one is thrown back upon the suggestion of a nervous causation. Unfortunately there is no account of the condition of the brain or the pneumogastric nerve, but it seems likely that they would have revealed nothing, to the naked eye at any rate.

The condition of dilatation and thinning of the heart walls was no doubt secondary, and due to the imperfect circulation through the coronary arteries causing such malnutrition of the heart as might well be followed by these changes which would certainly cause such valve incompetency as would be quite sufficient to account for the systolic murmur heard during life. But having said so much one has said almost all one can suggest with certainty as to the heart condition.

Why was there such a sudden onset to the whole illness? The sudden attack of unconsciousness is certainly suggestive of some centric lesion. Could possibly a small hæmorrhage have occurred at the origin of the pneumogastric nerve setting up such irritation that inhibition of the heart followed, and produced unconsciousness either directly or through the failure of blood-supply to the brain? And this disordered heart action having once been set up might have continued even after the partial absorption of the clot.

Possibly some tumour may have pressed on the nerve in its course to the heart, and so produced the irritation which alone seems to account for the peculiar action of the heart.

It is noticeable that there were few or none of the ordinary secondary changes following on valve incompetancy in the shape of œdema of the extremities or lungs, the man's general condition being more suggestive of anæmia of the

nervous centres than of congestion due to an impediment of the circulation.

However, notwithstanding the fact that he for a long time managed to accommodate himself to his imperfect heart action, and consequent imperfect circulation, it ultimately proved the cause of his death.

A CASE

OF

GASEOUS DISTENSION OF THE ABDOMEN

PRODUCED BY

MALIGNANT DISEASE OF THE SIGMOID FLEXURE.

By R. COURTEEN.

Frederick A—, æt. 61, labourer, was admitted into Burdett Ward, under Dr. Donkin, on August 26th, 1886, complaining of abdominal swelling and pain.

The patient states that until two months ago he enjoyed perfect health, never having had a day's illness in his life. He has had hæmorrhoids for the last three or four years, but they never caused him any inconvenience; he has drunk pretty freely, taking three or four pints of beer daily and occasionally more, but has never taken spirits to any great extent.

For the last two months patient has been losing flesh; during this time he has suffered from deep-seated pain of a more or less persistent character immediately above the pubes and has noticed that his abdomen has been gradually increasing in size. Within the last month his lower extremities have become swollen and œdematous, and he has also noticed that his urine has diminished in quantity. He has had no vomiting, bowels have been regular and the appetite good.

On admission the patient appears emaciated, the skin

over the upper part of the body is dry and wrinkled and of a yellowish tinge; there is some acne hypertrophica on the nose. The lower extremities, including the penis and scrotum, are œdematous, pitting on pressure; this is more marked on the left side.

The tongue is clean, red, and moist. Lungs emphysematous, cardiac dulness abolished. Heart-sounds normal, apex-beat very feeble. Pulse 84, vessels rather rigid. Temperature 101.° Abdomen tense and distended, no bulging of flanks, epigastric region very prominent, umbilicus flattened. Superficial veins large and well marked. Circumference of abdomen at umbilicus thirty-six inches. There is tympanitic resonance over the whole of the abdomen in the recumbent posture, but when the patient sits up a dull note may be elicited immediately above the pubes. Over the region of the stomach, where there is most distension, a still more resonant note may be obtained. Upon filliping one side of the abdomen a distinct thrill may be felt on the opposite side, but this is completely cut off by intermediate pressure. Upon palpation, which does not cause pain, none of the abdominal organs can be distinguished owing to the tenseness of the abdominal walls. Loud borborygmi can be heard at a distance from the patient. Urine scanty, acid, sp. gr. 1017, containing a small quantity of albumen.

Progress of the case.—August 31st: For a few days after admission the patient was kept in bed; the temperature fell to normal on the first day and remained there. He took his diet, consisting of fish, milk, custard, bread and butter, well; his only complaint was of slight pain above the pubes and a little difficulty in breathing when lying down. The abdomen remained about the same size. ℞ Pil. Creasoti ℿj, ter die.

September 1st.—Patient allowed to get up and walk about the ward, as he said he felt easier when up, and could sleep better at night. The bowels acted two or three times daily, the motions being relaxed, never containing blood. The patient was placed on meat diet which he took well.

5th.—The abdominal distension increased, the skin over the abdomen becoming quite glistening; the supra-pubic pain was more severe, and the respirations more frequent. The

urine was still scanty, averaging about 13 oz. daily; sp. gr. 1020, a little albumen. The bowels continue to act rather loosely. The œdema of the lower extremities remained the same as on admission. A diuretic was given without any effect.

9th.—The patient was now confined to his bed; he passed very restless nights, to which bromide of potassium gave no relief, consequently he was ordered a nightly injection of ¼ gr. of morphia, from which he derived considerable benefit. His appetite was not so good, so fried sole was substituted for meat diet.

14th.—The patient has been gradually getting worse during the last week. On this date he had considerable difficulty in breathing, the nose and lips were livid, the urine very scanty, only 9 oz. being passed in the twenty-four hours. The abdomen had become more distended, measuring forty-two inches in circumference, and the pain in the abdomen was much more severe and of a more general character, so that in order to relieve this distension the patient was punctured in the epigastric region with a hypodermic needle, a considerable quantity of gas escaping with sufficient force to extinguish a match when held over the needle; two punctures were made, the abdomen becoming flaccid, and the patient relieved. After the gas had been let off nothing abnormal could be distinguished in the abdomen; there was little or no tenderness, though he still complained of some pain in the supra-pubic region.

16th.—The abdomen was now distended again as much as ever so that the little operation had to be repeated, again giving relief. The patient was only able to take liquid nourishment.

18th.—The patient now had to be punctured each night before settling down to sleep; a larger needle was used and the puncture made lower down in the abdomen; the gas which escaped was very offensive. The patient was gradually getting thinner and weaker; he had more frequent attacks of dyspnœa and was unable to take his food. The abdomen became more painful.

20th.—The patient died at 6.45 this morning, during one of his attacks of dyspnœa.

The temperature since admission had been normal, except

on three occasions, when it went up to about 100° for a few hours. The pulse had always been regular and only slightly increased in frequency. The urine had been scanty, bowels always regular, motions rather loose, never giving rise to pain and never containing any blood.

The *post-mortem* examination was made by Dr. Hebb thirty-one hours after death. The body was emaciated, the lower extremities were œdematous, especially the left, also the penis and scrotum. Lungs emphysematous. Heart 11½ oz., no valvular disease. There was considerable atheroma of the medium- and smaller-sized blood-vessels, *e. g.* those of the pelvis, lower extremities, and base of brain. Upon opening the abdominal cavity the colon was seen to be enormously distended, almost completely concealing the other viscera; the small intestine and stomach were also considerably distended. The distension (which was due to gas) in the colon extended as low as the upper part of the sigmoid flexure, the calibre of which was much reduced by a ring of villous cancer undergoing colloid degeneration. The cancer partly constricted the gut from a contraction which had arisen throughout its base and partly from the protrusion of the villi into the lumen. The base, *i. e.* at the circumference of the gut, was firmly adherent to the parts around, and on stripping it off from its subjacent tissue (the bladder) there was found a diffuse collection of pus infiltrating the cellular tissue. The width of the cancerous ring was about one inch. There were no secondary growths in any part of the body, though the abdominal glands felt hard and were somewhat large and white in colour. The walls of the bladder were thick and the mucous membrane sacculated; there was no stricture, though the first inch of the urethra past the meatus was decidedly narrowed; verumontanum was large. Kidneys: right, 4 oz., firm, red, with diminished cortex containing a few small cysts and a slightly granular surface. Left, 7 oz., was soft with swollen cortex, and was the seat of numerous minute closely-set patches of yellow (secondary abscesses). Liver, 60 oz.; in the upper surface of right lobe was an antero-posterior fissure in which the forefinger could easily be laid. Spleen, 4 oz., normal.

Remarks.—This case had many features which prevented one from forming an accurate diagnosis, *e. g.* the gaseous distension without flatulence or any gastric symptoms, the regular action of the bowels without the passage of flatus, the absence of melæna, and, considering the nature of the growth and adjacent inflammation with the secondary abscesses in the kidney, the slight and variable character of the pain and the normal temperature. Malignant disease of some portion of the intestinal tract was suspected, but the actual situation could not be determined, though it was probably in the lower part of the alimentary canal. The case at first glance looked like ascites, coupled as it was with œdema of the lower limbs, and the scanty urine containing albumen, the history of drink, and the presence of piles, but on physical examination no doubt could be entertained that the distension was due to gas. That this enormous accumulation of gas should occur while there was a free passage for fæcal matter is not to be easily accounted for, and that, considering the soft and degenerating condition of the growth, there should have been no hæmorrhage is remarkable. As regards puncture of the abdomen, which is an operation as simple as it is harmless, though it afforded considerable relief at the time, it gave no assistance as to diagnosing the cause or seat of the disease. Had a long enema tube been passed per rectum, another mode of relieving gaseous distension, possibly the seat of the disease might have been diagnosed, though, considering the nature of the growth as revealed post mortem, the proceeding might not have been entirely free from danger.

Had the seat of the disease been determined, lumbar colotomy might probably have afforded relief to the patient for a short time.

TWO CASES

OF

SPINAL ATROPHIC PARALYSIS IN ADULTS.

By Dr. DONKIN and Dr. SYERS.

Frederick T—, æt. 19, clerk, admitted September 1st, 1885. Family history good. The patient's previous health had always been excellent, he had led a fairly active life, and played cricket and football frequently. He had never had rheumatism and had not been exposed to cold or wet. His habits had always been temperate, and there was no history of any blow or other injury, and none of any mental distress or anxiety.

His illness commenced at the beginning of August, 1885. At that time he first noticed that, without undue exertion, he felt "stiffness" and "tired feelings" in his legs. A week later there were aching pains in the ankles, shins, and knees, and a weakness of gait which rapidly increased. This weakness became so marked that whilst walking in the street he fell down and was unable to rise until assisted. He gave up his work after this and was able to walk to the hospital a week later. There were no febrile symptoms, the functions of the bladder and rectum were normally performed, and his health, with the exception mentioned, was good.

On admission, he was a healthy-looking young man, fairly nourished. He complained of pain in both ankles and knees,

which was aggravated by the pressure of the bed-clothes, and of weakness and unsteadiness of gait. On testing his walking power it was found to be very defective. He could walk a few paces without assistance, but in an extremely weak and unsteady manner, his body swaying from side to side, and he followed with his eyes the movements of his feet. The muscles of both lower extremities were small, but there was no special wasting of these or of other muscles. Sensibility both to touch and pain was everywhere normal. The plantar reflexes were present and equal, but sluggish. There was an entire absence of knee-jerk on both sides, and there was no ankle-clonus. The cremasteric, abdominal, and epigastric reflexes were present and equal. The grasp of both hands was strong and equal, and in all respects the upper extremities appeared to be perfectly normal. There was nothing abnormal to be noticed with regard to the spine and there was no tenderness on pressure in this region. The eyeballs moved normally, the pupils were equal and acted freely to light and accommodation, and the tongue on protrusion was straight. The special senses were normal. The heart and lungs were healthy, and there was no affection of the sphincters. The urine contained no albumen, was of acid reaction, and sp. gr. 1020. A faradic current of moderate strength to nerves and muscles of the upper extremities produced brisk reaction, equal on the two sides. A current of similar strength to nerves and muscles of left thigh and leg produced fairly vigorous contractions; the same strength of current to nerves and muscles of right lower extremity gave greatly diminished contractions, this diminished reaction to faradism being especially marked in the adductor muscles of the thigh. No vaso-motor changes were observed. The patient remained in bed, and a week later his walking power was practically as on admission. The muscles of the lower extremities were now flaccid, the flaccidity being especially marked on the right side. When lying in bed the right thigh was less vigorously drawn up on the abdomen than the left. There was much difficulty in stooping, and pain referred to the lumbar region on the performance of this act. The weakness of the lower extremities rapidly increased, and a fortnight after admission

the patient could not stand without support. He still complained of pain in the knees, increased by the pressure of the bed-clothes, and the latter were supported by a cradle. There was now obvious wasting of the muscles of the right lower extremity, the muscles of the thigh being chiefly affected. The circumference at the middle of the right leg was 10½ in., at the corresponding level of the left 10¾ in.; at the middle of the right thigh the measurement was 15 in., of the left 14½ in. The faradic current showed diminished reaction in the muscles of both thighs, especially marked on right side. Galvanism to nerves showed general diminution of reaction in the lower extremities. In the muscles there was general diminution, but the muscular contraction elicited was more powerful on the right than on the left side, this increase of irritability being especially obvious in the adductors of the right thigh. The muscles of the right thigh also showed qualitative changes in their reaction, the A.C.C being equal to the C.C.C., and the contraction being slow and prolonged. The wasting of the muscles of the right lower extremity became more obvious, and the softness and flaccidity of the same muscles more marked. The patient remained in bed, and on October 23rd massage twice daily to the right lower extremity was commenced. A few days later there was some increase of power in the extremity, evidenced by some opposition being made to passive movement and by his ability to move his leg more freely up and down in the bed. Ten days later the improvement was maintained, and a very slight trace of knee-jerk could be elicited on the left side, though still quite absent on the right side. A galvanic current of ten cells produced brisk reaction to the muscles of both thighs, those of the right side being, as before, the most irritable. The A.C.C. was equal to the C.C.C., and, as before, the contraction was slow and prolonged. A week later the patient could stand with slight support. The knee-jerk was easily elicited on the left side.

On November 17th, the electric reactions were again tested. With a faradic current of moderate strength it was found that to external popliteal nerve the reactions were fairly brisk and equal on the two sides, but much diminished when compared with those produced by a similar current to the

ulnar nerve. A similar diminution of reaction was found with the internal popliteal nerve. There was a general diminution of faradic contractility in the muscles of both lower extremities. A galvanic current to the same nerves produced similar results. To the extensor muscles of the thigh a weak current showed a qualitative change, the A.C.C. being greater than the C.C.C.; the same current to the same muscles on the right side showed the C.C.C. to be greater than the A.C.C. The adductor muscles being tested with a similar current a contraction equal on the two sides was produced, and the C.C.C. was greater than the A.C.C.; the contraction also was sharp and sudden. The knee-jerks at this date could be easily elicited on both sides, and the patient could stand with very slight support. From this time the patient's recovery was rapid, and a week later he could walk with assistance; the muscles of the lower extremities gained likewise in size and firmness. Three weeks afterwards the patient could walk across the ward without assistance, though still with some swaying movement, he was gaining weight, and the muscles of the lower extremities were still becoming harder and larger. The knee-jerk was well marked on both sides, that on the left side being still the most marked. His temperature throughout was normal. He left the hospital for a Convalescent Home on December 30th. Soon after this he perfectly recovered.

J. K—, æt. 51, tailor, admitted August 9th, 1885. The family history was unimportant.

The patient stated that thirty years previously he had a chancre; but there was no definite history of syphilis. He had been a free beer and spirit drinker. His health had been good until three years before admission, when he first complained of occasional momentary weakness of the left lower extremity, this weakness being accompanied with a sensation of numbness in the limb. He remarked that at the time of these attacks he would have fallen had he not been supported. Liability to the attacks of weakness continued for twelve months and then ceased; there had been no recurrence. There was never loss of consciousness or "fits" of any kind. During the two years preceding admis-

sion he had complained of occasional weakness in the right arm, being temporarily unable to lift the iron employed in his vocation.

He was in good health, with the exception of some pain and weakness in the loins, until August 2nd, 1885. At mid-day on that date he noticed pain of "dead numbing" character in one spot and in corresponding points of the calves of both legs. At this time his power of locomotion was unaffected. On the morning of August 3rd he found that both his legs were weak; he could walk without support, but in a very feeble manner. Nothing was observed to be wrong with the arms until the same evening (August 3rd), when similar sensations of numbness were experienced in both hands and arms. This became more marked, and a few hours afterwards the patient noticed loss of power in both arms, this being most marked on the right side. His weakness of gait rapidly increased, and on the morning of August 5th he could not stand without support; the feeling of numbness in both upper and lower extremities increasing during this time. On August 6th he was unable to feed himself with his right hand, and had since used his left hand for that purpose. The functions of the bladder and rectum were normally performed. There was no history of any exposure or of a fall, blow, or other injury.

On admission the patient was well nourished and healthy looking. He was unable to execute any but limited and feeble movements of both lower extremities. There was no resistance to passive force on bending the knees. The right arm was all but powerless, the left fairly movable, but all the movements were executed feebly. He could with great difficulty raise himself in bed. The power of grasping was absent in both hands. There was no apparent wasting of muscles; all the joints were lax. Sensibility to touch and pain was everywhere normal. The plantar reflex was equal and feeble on both sides. The knee-jerk was entirely absent on both sides, and there was no ankle-clonus. There was no affection of speech, the tongue on protrusion was straight; there was no facial paralysis. The movements of the eyeballs were normally performed, the pupils being equal and acting to light and accommodation. Nothing ab-

normal was noticed concerning the spinal column; there was no tenderness over it. The heart and lungs were healthy, and the temperature normal. The urine was 1030, alkaline and offensive. The following was the result of an electrical examination of nerves and muscles on admission. A faradic current, producing a brisk contraction when applied to the facial nerve, produced no reaction when applied to the nerves and muscles of the right forearm. A similar current to nerves and muscles of the left forearm produced a very slight contraction. When applied to nerves and muscles of the lower extremities a moderate current produced no reaction; an extremely powerful current to right lower extremity produced very slight reaction, except to the adductors of the thigh, where there was a fair reaction. A similarly powerful current to the nerves and muscles of the left lower extremity produced a very slight contraction. Galvanism applied to the nerves and muscles of the upper extremities produced scarcely any reaction; the C.C.C. was greater than the A.C.C., but the A.C.C. was increased. Similar reactions to galvanism were obtained on applying the current to the nerves and muscles of both lower extremities.

A fortnight later the patient was in the same helpless condition. His right upper extremity was quite powerless, and the movement of the left upper extremity feebler than on admission. He could not feed himself, though making efforts to do so with his left hand. He was unable to draw up his legs in bed, and the muscles, both of arms and legs, had obviously wasted. The legs were cold to the touch, and the muscles soft. There was no loss of power over the bladder and rectum.

On September 9th the electrical reactions were again taken. It was found that a faradic current of moderate strength, and also a very strong current, produced no reaction when applied to nerves and muscles of the upper extremities. To nerves of the lower extremities a strong current produced a very slight reaction, and to the muscles of the lower extremities the strongest current produced no reaction. Galvanism to the muscles of the upper and lower extremities produced fair contractions, the contractions being somewhat more prolonged than natural, and the A.C.C. being nearly

equal to the C.C.C. The patient remianed in much the same condition. On October 1st he could very slightly bend his knees and ankles, but he could not draw up his legs in bed. He could not move his right wrist or fingers, but could execute slight movements of the right shoulder. The left shoulder was freely movable, and he could slightly flex and extend the left elbow. There was complete loss of power at the left wrist, and the movements of the fingers were confined to that of slight flexion. There was very marked wasting of all the muscles of the extremities, and the bowels were obstinately confined.

A strong faradic current produced no reaction to the nerves and muscles of the limbs, except in the case of the left arm, where there was a very slight contraction. With strong and weak galvanic currents to the extensors and flexors of the right forearm the A.C.C. was greater than the C.C.C. Similar reaction was obtained when the current was applied to the flexors and extensors of the left forearm. In both cases the A.C.C. appeared first, and the reaction was slow and tonic, the muscles remaining in a state of contraction whilst the current was passing. A fortnight later he could very slightly flex and extend the last two joints of the finger of the right hand. The muscles of the right upper extremity had been subjected to massage during the last week of this fortnight. There was some increase of power in the legs; he could bend the knees slightly, but could not draw up the legs in bed. The electrical reactions were again tested on November 18th with the following results:— Faradism to the median, ulnar, and musculo-spiral nerves of the left arm, the current being strong, produced no reaction; a very strong current produced a faint reaction. The same results were obtained when faradism was applied to the corresponding nerves of the right arm, but the contraction was produced by a somewhat less strong current than that required on the left side. To the external and internal popliteal nerves on both sides there was scarcely any contraction, except with very powerful currents, which produced but feeble contractions. Faradism to the muscles of all extremities produced a universally slight reaction even to very strong currents, the diminished reaction being

especially marked in the muscles of both upper extremities. To galvanism the reactions were as follows:—A strong current to the right median and ulnar nerves produced scarcely any contractions; to the same nerves on the left side a similar current produced a fair contraction. To the musculo-spiral nerve on the right side a strong current produced a slight contraction of the supinator longus and extensors; to the same nerve on the left side a moderate reaction resulted. To the extensor muscles of both forearms a weak current produced a tonic prolonged contraction, the A.C.C. being greater than the C.C.C. Similar reactions were obtained with the flexor muscles. To the external and internal popliteal nerves on both sides moderate currents produced good contractions. To the muscles of the thighs on both sides a weak current produced a fair contraction, the A.C.C. being greater than the C.C.C. By January 4th, 1886, the patient had made considerable progress. He could at this time execute feebly all movements of the elbows and shoulders, and could also flex and extend the fingers and thumbs of both hands, the power of extension being feebler than that of flexion. The grasp of both hands was still very weak, but he was able to feed himself with his right hand. The movements of the legs were performed with ease. He could, with some effort, raise himself in bed. The muscles of the extremities were firmer and somewhat fuller. The knee-jerks were completely absent. The plantar reflex was brisk; the abdominal, epigastric, and cremasteric reflexes were absent.

The patient continued to improve slowly, but the return of power in the arms and legs was not marked. In the course of the next two months he was able to stand with some support, but could not walk by himself on leaving the hospital. On March 19th, but with his body leaning on a mechanical contrivance furnished with wheels, he could walk fairly well. During the last two months of his residence in the hospital there was no obvious increase in size of the muscles of the arms and legs, and the grasp of both hands remained extremely feeble, that of the right being the weaker. The knee-jerks were absent on his discharge.

Remarks by Dr. DONKIN.—The two cases reported above seem to be good examples of the affection known as spinal atrophic paralysis or by the anatomical name of poliomyelitis anterior, and may, perhaps, be regarded as belonging to the variety of the malady described by the term subacute diffused atrophic paralysis. The following points may be noticed:

1. In neither of these cases is any light thrown on the most important question of all, the *ætiology* of this disease, either by the personal or family history, and there was no evidence or reasonable suspicion of lead-poisoning. But it is to be remarked that the elder patient had symptoms recurring from time to time during the three years before the disease became marked, viz. temporary weakness and numbness of right arm and left leg, symptoms which may point to slight degrees of the same morbid process which underlies the established malady; while in the younger patient the onset was more sudden, though the development of the disease was much slower.

2. In both cases *pain* in the affected parts is a symptom to be regarded. It was noticed very early in both, and the pressure of the bedclothes had to be removed by means of a cradle for a considerable time, in the case of the elder patient, for some weeks. This patient complained also of a more constant pain in the lumbar region than the younger one (*lumbar* pain being present in both cases). I do not think these pains are to be explained by over-use of the affected muscles at the outset of the disease, as I was at one time inclined to believe, for the symptom was continuous after long rest. It would seem rather to point to a wider initial distribution of the original lesion than the accredited name would imply.*

3. In the elder patient, although there were apparent warnings of the disease for some time previously, the development was much more sudden and the distribution of the paralysis much more extensive than in the other case. The initial pain in the legs was felt on August 2nd, and on

* I have now (November, 1886) a case under me in Hallett Ward, with all the well-marked signs of this disease, where severe pain and tenderness in the legs and feet are very prominent symptoms. The patient is a young woman.

the 6th he was practically paralysed to a considerable degree in all limbs and trunk.

4. In the younger patient, who completely recovered in about five months from the beginning of the attack, the symptoms did not reach their acme until about six weeks after the onset of the disease, a fortnight after admission. In this case the upper extremities were unaffected throughout.

5. It was noted especially in the case of the elder patient, whose recovery, such as it was, was very slow, that the more differentiated movements were the last to return, or did not return completely, or at all. Thus there was always some very slight power of movement in the shoulders of the patient, which as time went on became marked, then the elbow movement returned, then, but very slightly, that of the wrist and fingers, the use of the hand generally being very slight indeed when the patient was seen some time after his discharge.

6. From what I have seen of other cases which have recovered with considerable rapidity, I should not be inclined to lay much stress on the coincidence of the improvement in the younger patient with the employment of shampooing, or, as it is now more mysteriously and fashionably termed, "massage" to the limbs. No effect was produced by this procedure on the elder patient. I would, however, try it again in similar cases.

[The electrical reactions, of considerable diagnostic value in these cases, were all repeatedly taken by Dr. Syers, to whom, for this and other careful observations of the course of these cases, I am greatly indebted.]

MEDICAL AND SURGICAL REPORTS.

MEDICAL REGISTRAR'S REPORT FOR THE YEAR 1885.

By H. WALTER SYERS.

Number of patients in Hospital, Jan. 1st, 1885			71
" " " Dec. 31st, 1885			57
Treated during the year			990
Admitted to Medical Wards during the year			919
Of these—Males		480	
Females		439	
		—919	
Average number of patients in Hospital			71·31
Average stay in Hospital of each patient			26·01 days.
Recovered or relieved:			
Males		392	
Females		367	
			— 759
Unrelieved, including those sent to Surgical or Obstetrical Wards:			
Males		17	
Females		12	
			— 29
Died:			
Males		71	
Females		60	
			— 131

Table A.

DISEASE.	Jan. to March.	April to June.	July to Sept.	Oct. to Dec.	Sex. Males.	Females.	Total.	Age. Under 5 yrs.	5—10.	10—20.	20—30.	30—40.	40—50.	50—60.	Over 60.	Result. Death.	Unrelieved.	Relieved.	No.
General Diseases:																			
Group A:																			
Scarlatina	1	1	6	1	4	5	9	1	4	2	1	1	...	...	...	...	...	9	I. 1—9
Variola	1	3	...	...	3	1	4	...	...	2	2	...	...	...	...	...	4	...	10—13
Morbilli	1	...	...	4	4	1	5	3	1	1	...	...	...	...	...	...	...	5	14—18
Rötheln	...	10	2	...	3	9	12	1	3	2	6	...	...	...	...	...	...	12	19—30
Varicella	...	1	2	2	3	2	5	1	3	1	...	...	...	...	...	...	...	5	31—35
Enteric fever	3	4	7	12	16	10	26	1	1	12	10	1	1	...	...	4	...	22	*vide* Table B
Diphtheria	4	6	6	2	9	9	18	14	2	1	1	...	...	...	...	8	...	10	36—53
Febricula	2	4	5	3	5	9	14	3	3	3	4	1	...	...	...	...	...	14	54—67
Intermittent fever	...	2	2	1	4	1	5	...	...	...	4	...	1	...	...	...	...	5	68—72
Erysipelas	2	11	6	3	9	13	22	...	...	6	8	4	2	2	...	...	...	22	73—94
Pertussis	2	1	2	...	4	1	5	2	3	...	...	...	...	...	...	...	...	5	95—99
Syphilis	...	...	4	1	1	4	5	1	...	...	2	2	...	...	...	...	...	5	100—104
Group B:																			
Poisons:																			
Belladonna	...	1	...	...	1	...	1	...	...	...	...	1	...	...	...	...	...	1	105
Lead	1	1	1	...	2	1	3	...	...	...	2	1	...	...	...	...	1	2	106—108
Group D:																			
Not classified:																			
Acute rheumatism	25	5	14	19	31	32	63	...	1	26	21	12	1	1	1	2	...	61	II. 1—63, *vide* Table C
Rheumatism, including subacute and chronic	11	12	5	11	18	21	39	...	1	5	12	12	4	4	1	...	...	39	III. 1—39
Gout	...	1	1	2	4	...	4	...	...	...	...	3	...	1	...	...	...	4	40—43
Tuberculosis	3	5	4	...	6	6	12	5	4	1	...	1	...	...	1	11	...	1	44—55
Rickets	1	...	...	1	2	...	2	2	...	...	...	...	...	...	...	...	2	...	56, 57
Myxœdema	1	...	...	1	...	2	2	...	...	...	2	...	...	...	...	...	2	...	58, 59
Purpura	...	...	1	...	...	1	1	...	...	...	...	1	...	...	...	...	...	1	60
Anæmia and chlorosis	9	7	15	9	...	40	40	...	...	19	19	2	...	...	...	...	...	40	61—80
Diabetes	3	...	...	1	2	2	4	...	...	...	2	...	1	1	...	...	1	3	81—84
Diseases of the Nervous System:																			
Brain:																			
Meningitis	...	1	...	1	2	...	2	...	1	1	...	...	...	...	...	1	...	1	IV. 2
Hydrocephalus	...	2	...	...	2	...	2	2	...	...	...	...	...	...	...	2	...	...	3, 4
Hæmorrhage	...	1	1	1	1	2	3	...	...	...	...	...	1	1	1	3	...	...	5—7
Abscess	1	...	...	...	1	...	1	...	...	...	1	...	...	...	...	1	...	...	8
Tumour	2	...	...	2	1	3	4	...	...	...	2	1	1	...	...	...	2	2	9—12
Syphilitic disease	...	1	...	...	...	1	1	...	...	...	1	...	...	...	...	...	...	1	11
Hemiplegia	6	5	3	1	9	6	15	...	1	...	...	2	4	6	2	...	7	8	12—26
Cerebro-spinal sclerosis	...	2	...	...	2	...	2	...	...	...	...	2	...	...	...	...	2	...	25*a*, 26*a*
Cord:																			
Anterior poliomyelitis	...	...	2	...	2	...	2	...	...	...	1	...	...	1	...	...	...	2	27, 28

TABLE A—*continued.*

DISEASE.	Jan. to March.	April to June.	July to Sept.	Oct. to Dec.	Sex. Males.	Females.	Total.	Age. Under 5 yrs.	5—10.	10—20.	20—30.	30—40.	40—50	50—60.	Over 60.	Result. Death.	Unrelieved.	Relieved.	No.
DISEASES OF THE NERVOUS SYSTEM:																			
Cord—continued.																			
Lateral sclerosis	2	...	1	1	3	1	4	...	...	...	2	...	1	1	...	...	...	4	29—32
Tabes dorsalis	...	2	1	...	3	...	3	...	...	...	1	...	1	1	...	...	1	2	33, 35
Myelitis	1	...	...	...	...	1	1	...	...	...	...	...	...	1	...	...	...	1	36
Facial paralysis	...	...	...	1	...	1	1	...	1	...	...	...	...	...	...	...	1	...	37
Neuralgia:																			
i. Trigeminal	...	...	1	...	1	...	1	..	...	...	...	1	...	...	...	...	...	1	38
ii. Sciatica	2	2	1	2	5	2	7	...	...	...	...	2	3	2	...	...	3	4	39—45
Headache	1	...	...	...	...	1	1	...	...	...	...	...	1	...	...	...	...	1	46
Infantile convulsions	1	2	2	1	5	1	6	6	...	...	...	...	...	...	...	...	...	6	47—52
Epilepsy	2	1	2	2	4	3	7	...	2	2	...	...	...	2	1	...	6	1	53—59
Chorea	7	4	6	2	8	11	19	...	4	14	1	...	...	...	...	...	1	18	*vide* Table D
Paralysis agitans	...	...	...	1	1	...	1	...	...	...	...	...	1	...	...	...	1	...	60
Hysteria	4	7	5	8	...	24	24	...	8	10	5	...	1	...	...	...	5	19	61—84
Mental diseases:																			
Hypochondriasis	2	1	1	...	4	...	4	...	...	...	1	2	1	...	...	...	4	...	85—88
Mania	1	2	...	...	2	1	3	...	...	...	1	1	1	...	...	1	...	2	89—91
Dementia	1	...	...	1	...	2	2	...	...	...	...	...	1	1	...	...	2	...	92, 93
Delirium tremens	2	1	...	...	3	...	3	...	...	...	...	2	1	...	...	...	...	3	94—96
DISEASES OF THE CIRCULATORY SYSTEM:																			
Dilatation of heart	5	2	...	4	5	6	11	...	...	...	...	1	2	4	4	9	...	2	V. 1—11
Pericarditis	...	...	...	1	1	...	1	...	1	...	...	...	...	...	...	...	...	1	12
Endocarditis (not arising in hospital):																			
Mitral:																			
1. With presyst. murmur	2	3	...	...	1	4	5	...	...	2	...	2	1	...	...	2	...	3	13—17
2. With systolic murmur	7	4	9	7	12	15	27	...	1	6	7	3	6	3	1	6	...	21	18—44
3. With double murmur	1	1	2	3	...	7	7	...	...	3	3	...	...	1	...	3	...	4	45—51
Aortic:																			
1. With systolic murmur	1	...	...	...	...	1	1	...	...	...	1	...	...	...	...	...	...	1	52
2. With diastolic murmur	...	3	1	2	6	...	6	...	...	...	1	...	4	1	...	1	...	5	53—57
3. With double murmur	1	5	3	5	9	5	14	...	...	5	2	4	2	...	1	3	...	11	58—71
Cyanosis	1	...	...	1	2	...	2	2	...	...	...	...	...	...	...	1	1	...	72, 73
Angina pectoris	...	1	1	...	2	...	2	...	...	...	...	1	1	...	...	...	1	1	74, 75
Aneurysm:																			
1. Thoracic	2	3	3	1	8	1	9	...	...	...	...	3	5	1	...	2	...	7	76—84
2. Abdominal	1	...	1	...	2	...	2	...	...	...	...	...	1	1	...	...	...	2	85, 86

TABLE A—*continued.*

DISEASE.	Jan. to March.	April to June.	July to Sept.	Oct. to Dec.	Sex. Males.	Females.	Total.	Age. Under 5 yrs.	5—10.	10—20.	20—30.	30—40.	40—50.	50—60.	Over 60.	Result. Death.	Unrelieved.	Relieved.	No.
DISEASES OF THE CIRCULATORY SYSTEM—*continued.*																			
Diseases of the Thyroid:																			
Exophthalmic goitre	...	1	...	...	...	1	1	...	...	1	...	...	...	...	...	1	...	...	VI. 7
Hypertrophy	...	...	1	1	1	1	2	...	...	1	1	...	...	...	...	...	...	2	2, 3
DISEASES OF THE RESPIRATORY SYSTEM:																			
Laryngitis	1	...	1	3	2	3	5	1	...	...	2	...	1	...	1	...	...	5	VII. 1—5
Malignant laryngeal growth	1	...	...	...	1	...	1	...	...	...	...	...	1	...	...	...	1	...	6
Bronchitis:																			
1. Acute	9	4	3	12	16	12	28	19	4	3	1	1	...	...	...	...	...	...	7—34
2. Chronic	8	9	8	6	12	19	31	...	...	...	3	3	10	4	11	4	...	27	35—65
Pneumonia:																			
1. Lobular	6	4	9	3	12	10	22	10	8	3	1	...	...	...	...	5	...	17	66—87
2. Lobar	8	7	7	14	26	10	36	...	7	2	8	13	5	1	...	10	...	26	88—123
Pleurisy:																			
1. Effusion	6	10	3	2	16	5	21	2	1	2	5	4	6	...	1	...	...	21	124—144
2. Empyema	...	2	2	2	5	1	6	1	2	...	2	...	1	...	...	2	...	4	145—148
Phthisis	22	8	17	10	30	27	57	...	...	8	8	16	18	6	1	17	...	40	149—205
Malignant disease of lungs	1	...	...	...	1	...	1	...	...	...	1	...	...	...	...	1	...	...	206
Intrathoracic tumour	1	3	...	1	2	3	5	...	...	...	1	1	2	...	1	...	5	...	VIII. 1—5
DISEASES OF THE DIGESTIVE SYSTEM:																			
Mouth:																			
Stomatitis	...	...	...	1	...	1	1	1	...	...	...	...	...	...	...	...	...	1	IX. 1
Pharynx and Œsophagus:																			
Dysphagia (stricture)	1	...	...	...	1	...	1	...	...	...	...	...	...	...	1	...	1	...	2
Tonsillitis	12	10	13	8	15	28	43	4	5	16	16	2	...	...	...	...	...	43	3—45
Stomach:																			
Dyspepsia	5	3	2	2	2	10	12	...	1	...	5	4	2	...	...	...	...	12	46—57
Hæmatemesis	...	...	2	1	2	1	3	...	...	...	2	1	...	...	...	...	...	3	58—60
Ulcer	3	5	5	1	...	14	14	...	...	1	8	4	...	1	...	1	...	13	61—73
Carcinoma	...	...	1	...	1	...	1	...	...	...	...	...	1	...	...	1	...	...	74

TABLE A—*continued.*

DISEASE.	Jan. to March.	April to June.	July to Sept.	Oct. to Dec.	Sex. Males.	Sex. Females.	Sex. Total.	Age. Under 5 yrs.	Age. 5—10.	Age. 10—20.	Age. 20—30.	Age. 30—40.	Age. 40—50.	Age. 50—60.	Age. Over 60.	Result. Death.	Result. Unrelieved.	Result. Relieved.	No.
DISEASES OF THE DIGESTIVE SYSTEM — *continued.*																			
Intestines:																			
Diarrhœa	1	1	6	1	4	5	9	4	1	3	1	...	...	...	...	...	...	9	75—83
Constipation	1	3	1	2	4	3	7	...	...	...	1	2	3	...	1	...	...	7	84—90
Colic	...	2	2	3	2	5	7	...	3	2	1	...	...	...	1	...	...	7	90—96
Typhlitis	...	2	4	1	4	3	7	...	...	1	1	5	...	...	...	...	...	7	97—103
Enteritis	...	1	1	...	1	1	2	2	...	...	...	...	...	...	...	2	...	...	104, 105
Colitis	1	...	...	...	...	1	1	...	...	...	1	...	...	...	...	1	...	...	106
Obstruction (fæcal accumulation)	1	...	1	...	2	...	2	...	...	1	1	...	...	...	...	...	...	2	107, 108
Malignant disease of colon	1	1	...	...	1	1	2	...	...	...	...	...	1	1	...	2	...	...	109, 110
Malignant disease of rectum	...	1	...	1	...	2	2	...	...	...	2	...	...	...	...	...	...	2	111, 112
Liver:																			
Jaundice	1	1	3	2	2	5	7	...	1	...	5	...	1	...	...	1	...	6	IX B. 1—6
Enlargement	4	2	1	4	5	6	11	...	...	...	1	2	4	2	2	...	3	8	7—16
Gall-stone colic	...	1	...	...	1	...	1	...	...	...	...	...	...	...	1	...	...	1	17
Cirrhosis	1	1	1	...	1	2	3	...	...	...	...	2	...	1	...	1	...	2	18—20
Abscess	1	1	...	...	1	1	2	...	...	...	...	1	...	...	1	1	1	...	21, 22
Syphilitic disease	...	...	1	...	...	1	1	...	...	...	...	1	...	...	...	1	...	...	23
Disease of the Pancreas:																			
Chronic inflammation	...	1	...	...	...	1	1	...	...	...	...	...	...	...	1	1	...	...	24
Peritoneum:																			
Malignant disease	2	2	...	2	2	4	6	...	...	...	1	...	3	1	1	4	2	...	25—30
Peritonitis:																			
1. Acute	...	1	1	...	1	1	2	...	...	2	...	...	...	...	...	1	...	1	31, 32
2. Chronic	2	1	4	...	1	6	7	...	3	3	...	1	...	...	...	3	...	4	33—39
DISEASES OF THE LYMPHATIC SYSTEM:																			
Enlargement of the spleen	1	1	1	...	2	1	3	...	1	...	...	2	...	...	...	...	1	2	X. 1—3
Disease of the Suprarenal Capsules:																			
Addison's disease	...	...	1	1	2	...	2	...	...	...	1	1	...	...	...	1	...	1	XI. 1, 2

TABLE A—*continued.*

DISEASE.	Jan. to March.	April to June.	July to Sept.	Oct. to Dec.	Sex. Males.	Sex. Females.	Sex. Total.	Age. Under 5 yrs.	Age. 5—10.	Age. 10—20.	Age. 20—30.	Age. 30—40.	Age. 40—50.	Age. 50—60.	Age. Over 60.	Result. Death.	Result. Unrelieved.	Result. Relieved.	No.
DISEASES OF THE URINARY SYSTEM:																			
Acute nephritis	1	3	1	1	5	1	6	...	1	2	...	2	1	...	...	2	...	4	XII. 1—6
Chronic nephritis:																			
1. Large white	4	1	4	1	8	2	10	...	...	3	4	1	2	...	...	4	...	6	7—16
2. Contracted	3	5	7	6	13	8	21	...	...	1	3	2	4	6	5	4	...	17	17—37
Pyelitis	...	...	...	1	1	...	1	...	...	...	...	...	1	...	...	...	1	...	38
Renal calculus	1	1	1	...	1	2	3	...	...	...	2	...	...	1	...	...	...	3	39—41
Hæmaturia	1	...	...	3	3	1	4	...	2	...	1	...	1	...	...	...	...	4	42—45
DISEASES OF THE SKIN:																			
Erythema nodosum	1	1	1	1	1	3	4	...	...	3	...	...	1	...	...	...	...	4	XIII. 1—4
Eczema	1	1	1	...	1	2	3	1	1	...	...	...	...	...	1	...	...	3	5—7
Psoriasis	...	...	1	...	1	...	1	...	...	...	...	1	...	...	...	...	1	...	8
DISEASES OF WOMEN:																			
Pelvic peritonitis (transferred to Arden)	1	...	...	1	...	2	2	...	...	1	1	...	...	...	...	2	...		XIV. 1, 2
Ovarian tumour	...	...	1	...	...	1	1	...	...	...	...	...	1	...	...	...	...	1	3
Uterine complaints (transferred to Arden)	...	...	2	1	...	3	3	...	...	...	2	...	...	1	...	...	3	...	4—6
VARIOUS:																			
Tænia solium	...	...	1	...	1	...	1	...	...	1	...	...	...	...	...	...	...	1	XV. 1
Epistaxis	1	...	...	...	1	...	1	...	...	...	1	...	...	...	...	...	...	1	2
Symmetrical gangrene affecting the phalanges of fingers and toes	...	1	...	...	...	1	1	...	...	...	...	...	1	...	...	...	...	1	3
Angular curvature	...	1	...	...	1	...	1	...	...	1	...	...	...	...	...	...	1	...	4
Diseased hip-joint	...	1	...	...	1	...	1	...	...	1	...	...	...	...	...	...	1	...	5
„ ankle-joint	...	...	1	...	...	1	1	...	...	1	...	...	...	...	...	...	1	...	6
Dislocation of femur	...	1	...	...	...	1	1	1	...	...	...	...	...	...	...	...	1	...	7
Abscess connected with carious teeth	...	1	1	...	...	2	2	...	1	...	1	...	...	...	...	...		2	8, 9
Ulcer of cornea	...	...	...	1	1	...	1	...	...	1	...	...	...	...	...	...	1	...	10
Otorrhœa	1	...	...	...	1	...	1	...	...	...	1	...	...	...	...	...	...	1	11
Debility, &c.	8	7	8	9	20	12	32	1	4	11	8	4	4	...	...	...	...	32	12—43
Ill-feeding	2	...	2	3	3	4	7	7	...	...	...	...	...	...	...	...	...	7	44—50

Table B.—*Enteric Fever.*

During the year 1885 26 cases of enteric fever were treated in the hospital.

The average stay in the hospital of each patient was 51 days.

One patient had hæmorrhage from the bowel, six patients suffered relapse, and twenty had more or less profuse diarrhœa. In six cases the bowels were constipated.

Four deaths occurred, three of the fatal cases being those of males, aged respectively 29, 16, and 14; the fourth case was that of a female, aged 27.

In most of the cases the cause assigned was bad drainage.

TABLE B—*continued.*

No. and name.	Month admitted	Sex.	Age.	Onset.	Character.	Fever.	Days in hosp.	Result.	Treatment.	Remarks.
1 W. C.	Dec., 1884	M.	47	Headache, diarrhœa	Admitted at end of 2nd week; profuse diarrhœa; night delirium; great prostration; slight hæmorrhage during 6th week; prolonged convalescence	49 days' fever; highest temp. 104·4°	126	Recov.	Enema amyli c. opio, brandy	—
2 M. H.	Jan., 1885	F.	5	Sickness, epistaxis, loss of appetite, drowsiness	Admitted in 1st week; listless; much distension of abdomen; well-marked rash; spleen enlarged; no diarrhœa	28 days' fever; highest temp. 103·6°	48	„	—	The house in which the patient lived was said to be unhealthy, and there had been bad smells in it for some time previously. Ischio-rectal abscess during 2nd week, which was opened.
3 E. J.	Feb.	F.	19	Sore-throat, weakness, diarrhœa, loss of appetite, pain in back	Admitted at end of 3rd week; bronchitis; abdominal distension marked; much abdominal pain; well-marked rash; spleen enlarged	22 days' fever; highest temp. 104·4°	69	„	Pulv. ipecac. co.	—
4 R. L.	April	F.	32	Diarrhœa, pain in hips, night delirium	Admitted on 10th day; high fever until end of 3rd week, when temperature fell to normal; severe bronchitis and profuse diarrhœa; much delirium; great prostration	23 days' fever; highest temp. 105·4°	27	Death	Enema amyli c. opio, brandy, champagne	Marked improvement at beginning of 4th week; temp. remained normal for 3 days, and then rose to 104·6°, remaining high until death. A papular rash of dusky aspect appeared on trunk and extremities on the day preceding death. P.M.—General bronchitis. Colon throughout studded with ulcers about the size of a threepenny piece. The large and small glands of the ileum for a considerable distance above the valve were ulcerated, the ulcers being superficial, and greatly enlarged. The mesenteric and lumbar glands were enlarged.

5 E. B.	May	F.	23	Diarrhœa, headache, epistaxis, delirium	Admitted at the end of 2nd week; copious rash; albuminous urine; deafness; spleen enlarged	21 days' fever; highest temp. 104·6°	42	Recov.	—	—
6 S. W.	„	F.	27	Weakness, diarrhœa, headache	Admitted at the beginning of the 2nd week	—	31	„	—	—
7 E. T.	June 30th	F.	15	Diarrhœa, weakness, frontal headache	Admitted in 4th week	4 days' fever; highest temp. 101·2°	40	„	—	During convalescence patient passed into a weak mental condition, manifesting loss of memory and mental debility to a high degree. Later, on returning home, she became extremely wilful and unmanageable, a condition quite foreign to her former nature
8 B. L.	July 13th	M.	19	General malaise, sore-throat, lumbar pain	Admitted at the beginning of the 2nd week; rash well marked; great prostration; very delirious; tremor of hands and of facial muscles; urine albuminous, passed into bed	23 days' fever; highest temp. 105°	73	„	Brandy, tepid sponging	—
9 R. E. G.	July 30th	M.	16	Rigors, diarrhœa, frontal headache, cough	Admitted at the end of 2nd week; abdomen distended and painful; spleen enlarged; relapse; bowels confined throughout	12 days' fever in first attack; 17 days' fever in relapse; highest temp., first attack, 103°; in relapse, 105°	80	„	Brandy	Severe relapse at the end of 6th week, with return of abdominal pain, and distension, and high temperature. Œdema of left leg during convalescence

TABLE B—*continued.*

No. and name.	Month admitted	Sex.	Age.	Onset.	Character.	Fever.	Days in hosp.	Result.	Treatment.	Remarks.
10 G. P.	July 20th	M.	16	Pains in limbs, headache, diarrhœa, night delirium	Admitted on 9th day; very prostrate from the first; bowels confined until 4 days before death, then diarrhœa; much tremor and delirium; well-marked eruption; severe bronchitis; albuminous urine	23 days' fever; highest temp. 104·4°	23	Death	Pil. plumbi c. opio, inj. ergot hypoderm, brandy, icebag to abdomen	Retention of urine requiring use of catheter throughout. Severe hæmorrhage two days before death, blanching patient greatly. P.M. —General bronchitis. No blood in bowel. The small intestine for 8 feet above the valve was the seat of typical typhoid ulceration, some of the ulcers having peritoneal coat only as a floor. A few ulcers were found scattered through ascending and transverse colon.
11 S. C.	Aug. 6th	F.	21	Pains in limbs, sore-throat, loss of appetite, diarrhœa, headache, sickness, shivering	Admitted about 10th day; severe bronchitis; much tremor; well-marked eruption; urine albuminous; inability to retain urine	15 days' fever; highest temp. 105°	55	Recov.	Pulv. ipecac. co.	Severe vomiting, very deaf during height of fever.
12 A. S.	Sept. 4th	F.	17	General malaise, diarrhœa, frontal headache, sickness	Admitted at end of 1st week; profuse diarrhœa; abdomen greatly distended and very tender; abundant rash; albuminous urine; inability to retain urine	15 days' fever; highest temp. of fever 104°	58	„	Enema opii, brandy	Attack of tonsillitis during convalescence; temp. rose to 104·8°, remaining high for 2 days. Shortly after leaving hospital œdema of right leg and thigh ensued.
13 J. W. T.	Sept. 10th	M.	21	Loss of appetite, nausea, frontal	Admitted at end of 1st week; great prostration; few spots until relapse in the middle of 4th week, then copious erup-	25 days' fever; highest temp., first attack, 103·6°; in	77	„	Brandy, acid. gall.	Bad smell noticed in the house some weeks previous to illness. Severe relapse during 4th week,

				headache, pain in back	tion; epistaxis during relapse; delirium and tremor; retention requiring use of catheter	relapse, 103·8°				all symptoms returning and more marked. During relapse there was continued hæmaturia, which subsided during convalescence.
14 A. A.	Sept. 18th	F.	24	General pain, headache, diarrhœa	Admitted at the end of 3rd week; had been in bed 14 days before admission; very prostrate on admission; marked tremor of hands and tongue; abdomen distended, not tender; urine albuminous	4 days' fever; highest temp. 102·2°	34	"	Brandy, Potass. bromid.	No diarrhœa after admission; very sleepless.
15 W. K.	Oct. 14th	M.	29	Diarrhœa, great prostration	Apparently admitted in 3rd week; extremely prostrate; profuse diarrhœa; abdomen distended and tender; no eruption; much delirium and tremor	8 days' fever; highest temp. 106·2°	8	Death	Quiniæ sulph., Pulv. ipecac. co., pulv. ipecac., brandy, tepid sponging	The patient was too ill to give a satisfactory account of onset of malady. He had returned a few months previously from Suakin. Temp. persistently high (103^{5} — 106·2°) until death. Nervous symptoms well marked. Delirium and subsultus. P.M.—Intestinal mucous membrane much swollen. Ileum for 3 feet above valve, seat of ulcerations, whose long axis was transverse, the muscular fibres being exposed in many instances; ulceration of commencement of colon.
16 G. S.	Oct. 16th	M.	25	Diarrhœa, pain in lumbar region and in abdomen, weakness	Admitted at the end of the 2nd week; much distension and great tenderness of abdomen; no eruption; no diarrhœa; urine albuminous	19 days' fever; highest temp. 105°	49	Recov.	Pulv. ipecac. co., Enema simp.	During convalescence well-marked ankle-clonus could be elicited on both sides. The knee-jerks were at the same time very brisk, and the elbow tap on either side produced well-marked reaction.

TABLE B—*continued.*

No. and name.	Month admitted	Sex.	Age.	Onset.	Character.	Fever.	Days in hosp.	Result.	Treatment.	Remarks.
17 J. M.	Nov. 6th	M.	14	Pain in limbs, weakness, cough, hoarseness, diarrhœa	Fatal attack; great prostration from first; admitted at the end of 1st week; tongue dry and fissured throughout; sordes on teeth; general bronchitis; well-marked rash; epistaxis; nervous symptoms prominent; urine albuminous	9 days' fever; highest temp. 105·4°	9	Death	Pulv. ipecac. co., brandy, tepid sponging	Bad smells in house, and the drainage found to be very defective. Several other cases had occurred shortly before in the same house. P.M.—Typical typhoid ulcers found in the last 6 feet of the ileum, being most numerous towards the valve; a few circular ulcers were found in the ascending colon. The mesenteric glands were much enlarged; general bronchitis.
18 A. E.	Nov. 9th	M.	18	Pain in limbs and weakness, abdominal pain and diarrhœa, loss of appetite	Admitted at the end of 1st week; abdomen distended; well-marked rash; sickness and diarrhœa; much prostration; urine albuminous; retention requiring use of catheter	22 days' fever; highest temp. 105·2°	51	Recov.	Pulv. ipecac. co., Decoct. cinchonæ, brandy, tepid sponging	During convalescence there was inflammation of the right parotid.
19 R. L.	Nov. 11th	M.	4	Headache, loss of appetite, sickness, delirium	Admitted at the end of the 2nd week; bronchitis; well-marked rash; epistaxis; delirium; profuse perspirations	8 days' fever; highest temp. 103·8°	58	„	—	—
20 E. J. B.	Nov. 27th	M.	12	Frontal headache, abdominal pain, anorexia, night delirium	Admitted at end of 2nd week; no rash; tongue dry and fissured; abdomen distended and tender; urine albuminous	4 days' fever; highest temp. 102°	33	„	—	Mild attack.
21 T. S.	Nov. 27th	M.	14	Frontal, headache, abdominal	Admitted at end of 1st week; abdomen much distended; scanty rash; slight diarrhœa	—	26	„	—	—

				pain, loss of appetite, diarrhœa						
22 W. C.	Nov. 3rd	M.	13	Headache, sickness, cough	Admitted at end of 2nd week; relapse at beginning of 4th week; second attack severe, and attended with great prostration and emaciation; no diarrhœa; no rash; very slight distension of abdomen; general bronchitis	25 days' fever; highest temp. 104·4°	70	„	—	—
23 E. H.	Nov. 11th	F.	26	Patient being 5 months' pregnant aborted at commencement of the illness; vomiting, diarrhœa, abdominal pain, epistaxis	Admitted at end of 3rd week; well-marked rash; much prostration; severe diarrhœa	42 days' fever; highest temp. 103·4°	80	„	Enema amyli ō. opio, Pil. plumbi ō. opio, brandy	Patient had phlegmasia dolens in left side after a fortnight's residence in hospital.
24 A. H.	Nov. 13th	M.	22	Headache, shivering, abdominal pain, cough, weakness	Admitted at end of 2nd week; much prostration; very sleepless; tremor of hands and lips; well-marked rash; no diarrhœa; epistaxis; relapse in 6th week lasting 10 days	28 days' fever; highest temp. 104·2°	63	„	Liq. morphiæ, Enema simp.	—
25 A. M.	Dec. 5th	M.	17	Headache, pain in back and abdomen, weakness, cough, diarrhœa	Admitted at end of 2nd week; much distension of abdomen; slight diarrhœa; but few spots; relapse at end of 4th week, lasting 12 days; urine albuminous	8 days' fever first attack; 12 days' fever on relapse; highest temp. 103·8°	60	„	Pulv. ipecac. co., brandy	—
26 J. H.	Dec. 23rd	M.	26	Shivering, pains in joints, weakness	Admitted at end of 2nd week; much prostration; copious rash; abdomen distended; no diarrhœa	11 days' fever; highest temp. 104·2°	38	„	Quiniæ sulph., brandy	Bad smells in house.

TABLE C.—*Acute Rheumatism.*

In the reports for the last two years the cases of acute rheumatism treated in the hospital during the years 1881-2-3-4 were tabulated with especial reference to the following points: age, sex, months, and seasons of the year, duration of attack, heart complications, and inheritance.

The cases treated during the year 1885 are added to this summary, the number of cases now reaching 386.

Ages.

	Under 5.	5—10.	10—20.	20—30.	30—40.	40—50.	50—60.	Over 60.
1881	0	2	31	22	23	5	1	0
1882	1	3	29	16	12	5	1	0
1883	0	1	18	28	14	8	2	1
1884	0	16	33	29	14	5	3	0
1885	0	1	26	21	12	1	1	1
Total	1	23	137	116	75	24	8	2

Sex.

	Males.	Females.
1881	43	41
1882	25	42
1883	39	33
1884	46	54
1885	31	32
Total	184	202

Numbers admitted in each month.

January	43	July	23
February	43	August	40
March	35	September	39
April	27	October	41
May	25	November	19
June	21	December	30

Seasons.

Cases admitted in each group of three months.

January—March . .	121	July—September .	102
April—June . . .	73	October—December	90

Cases admitted in two groups: six warmer and six colder months.

April—September . .	168	October—March . .	218

Average stay in hospital—20·86 days.

Inheritance.

	Rheumatism.	Gout.	Neurosis.	Phthisis.
1881	26 ...	7 ...	3 ...	11
1882	34 ...	2 ...	13 ...	19
1883	32 ...	6 ...	9 ...	9
1884	42 ...	14 ...	22 ...	8
1885	17 ...	7 ...	22 ...	18
Total . . .	151 ...	36 ...	69 ...	65

Character.

Months.	No. of cases.	Average stay in days.	No. of cases with heart disease.	Character of heart disease.		No. of cases admitted with old heart disease.
				Peri-carditis.	Endo-carditis.	
January . . .	43	33·27	23	9	21	3
February . . .	43	30·99	28	15	20	6
March . . .	35	31·33	16	9	15	3
April . . .	27	33·40	17	3	15	5
May . . .	25	30·79	12	7	8	1
June . . .	21	29·14	10	2	9	1
July . . .	23	25·86	14	5	11	4
August . . .	40	20·97	19	9	13	5
September . .	39	25·60	17	5	13	2
October . . .	41	30·09	24	9	19	5
November . .	19	28·42	11	8	6	2
December . .	30	21·56	13	5	9	4

The whole number of cases with heart affections is 204; of these, 86 suffered from pericarditis and 159 endocarditis. The number includes 41 cases with old heart disease, as shown by cardiac bruits, and 42 who had both pericarditis and endocarditis. The number leaving hospital with persistent bruits is 146.

TABLE C—*continued.*

No. and name.	Sex.	Age.	Month admitted.	Day of illness admitted.	Previous attacks.	Age when first attacked.	Family history.	Days of fever in hospital.	Days of pain in hospital.	Highest temp.	Joints, &c., affected.	Heart.			No. of days in hospital.	Result.	Treatment.	Remarks.
												Affection.	In which attack developed.	State on discharge.				
1 G. F.	M.	18	Jan.	21st	0	18	Mother acute rheumatism, paternal grandfather insane	14	10	102°	Knees, ankles, right arm	Systolic at apex	Present	Heart-sounds clear	39	Recovery	Sodæ sal.	Attack preceded by tonsillitis.
2 C. T.	M.	18	„	?	2	?	Father insane, mother died of cancer	60	45	103·8°	Knees, shoulders, elbows, wrists, and fingers	Double aortic mitral systolic	?	—	60	Death	Sodæ sal., alkalies	Heart; visible pulsation in 4th and 5th spaces, maximum impulse in 5th 1 inch outside nipple line, heaving, marked recession of chest wall with systole. P.M. — Heart 16½ oz., dilatation with hypertrophy, no pericardial adhesion.
3 J. G.	M.	37	„	6th week	2	34	1 brother acute rheumatism	3	10	102·6°	Knees and wrists	Endocarditis	?	Mitral regurgitation	24	Recovery	Sodæ sal.	Free beer drinker.
4 W. S.	M.	20	„	15th	0	20	Father acute rheumat. when young, gout since	22	15	102·2°	Shoulders, knees, left ankle	—	—	—	36	„	„	Slept in damp room for some weeks before attack. Tonsillitis during convalescence. Free beer drinker.

5 E. C.	F.	22	„	5th	0	22	Two brothers died of phthisis, mother insane, first cousin had fits	9	10	101·8°	Right shoulder, left hip, both knees	—	—	Systolic bruit over left base (hæmic)	30	„	Sodæ sal., alkalies	No previous illness. Exposed to vicissitudes of temperature. Diarrhœa during convalescence.
6 A. B.	F.	18	„	21st	2	17	Father gout, one sister acute rheumatism, maternal aunt insane, with fits	1	4	99·8°	Elbows, knees, left ankle	—	—	—	15	„	Alkalies	Anæmic. Frequent attacks of sore-throat.
7 K. W.	F.	33	„	14th	1	33	One brother died of phthisis	6	7	100·6°	Right ankle, left wrist	—	—	—	12	„	Sodæ sal., tinct. ferri perchloridi	First attack preceded by sore-throat. Patient very emotional.
8 S. D.	M.	22	„	6th	0	22	Family healthy	12	7	100°	Knees and ankles	Endocarditis, pericarditis	Present	Mitral regurgitation	37	„	Sodæ sal.	No previous illness.
9 C. D.	F.	19	„	3rd	1	17	„	—	2	98·4°	Left knee and back	Endocarditis	?	„	8	„	—	—
10 H. C.	F.	19	Feb.	21st	1	18	„	3	3	100°	Right knee and ankle	—	—	—	9	„	—	—
11 J. B.	M.	23	Feb.	9th	0	23	Maternal uncle gout	15	17	102°	Shoulders, knees, ankles, right wrist	—	—	—	34	„	Sodæ sal.	Free beer drinker.

TABLE C—*continued.*

No. and name.	Sex.	Age.	Month admitted.	Day of illness admitted.	Previous attacks.	Age when first attacked.	Family history.	Days of fever in hospital.	Days of pain in hospital.	Highest temp.	Joints, &c., affected.	Heart.			No. of days in hospital.	Result.	Treatment.	Remarks.
												Affection.	In which attack developed.	State on discharge.				
12 G. B.	M.	50	Feb.	7th	0	50	Father gout, one brother insane	16	2	104·4°	Wrists, knees, ankles	—	—	—	55	Recovery	Sodæ sal., brandy	Patient was present at the explosion at Westminster Hall; had been nervous and upset since; nervous symptoms well marked during the attack; passed urine and motions into bed. There was also much tremor of hands and night delirium.
13 M. G.	F.	17	„	3rd	0	17	Father died of phthisis, had rheumatism; maternal uncle hemiplegia	17	17	103·4°	Right knee, right shoulder	Pericarditis, endocarditis	Present	Mitral regurgitation	17	„	Sodæ sal.	Extreme tenderness and great swelling of right knee in the course of the attack. Removed to surgical ward for treatment of knee.
14 A. B.	F.	21	„	10th	0	21	Family healthy	23	53	103°	Both knees	—	—	—	71	Recovery	Sodæ sal., alkalies	Had lived in a damp house previously to the attack. Severe facial erysipelas during convalescence; temperature at its highest being 105·4°.
15 M. S.	F.	14	„	3rd	0	14	„	10	9	101·4°	Left shoulder, elbow, and wrist	—	—	—	20	„	Sodæ sal.	Attack preceded by tonsillitis.

16 J. R.	F.	15	„	5th	2	12	Father suicide, mother died of phthisis	4	7	103°	Knees and ankles	Endo-carditis	?	Mitral regurgi-tation	25	„	Sodæ sal., tinct. ferri per-chlor., port	Increased area of cardiac dulness and displacement of apex outwards. Patient had several attacks of faintness during convalescence.
17 M. S.	F.	9	„	6th	1	11	Two maternal uncles died of phthisis	8	16	100·4°	„	Peri-carditis, endo-carditis	Pre-sent	—	16	Death	Tinct. digitalis, tinct. opii	Pericarditis with much effusion and greatly increased dulness (to right one inch beyond right margin of sternum and vertically to left clavicle). Loud friction-sound at first. Great pain in cardiac region and much tenderness over same area and epigastrium. Death occurred suddenly.
18 F. T.	F.	21	Mar.	7th	0	21	Mother acute rheumatism, brother and sister epileptic	10	12	101·2°	Knees, ankles, wrists	Systolic bruit at apex	—	Heart-sounds clear	27	Reco-very	Sodæ sal., alkalies	Very anæmic. Attack preceded by sore-throat.
19 A. C.	F.	26	„	21st	0	26	Mother died of phthisis	10	15	100·4°	Should-ers, knees	—	—	—	29	„	Sodæ sal.	—
20 M. E. J.	F.	22	„	6th	1	18	Father died of phthisis	5	4	103°	Right ankle	—	—	—	11	„	Sodæ sal., pil. sapon. co.	—

TABLE C—*continued.*

No. and name.	Sex.	Age.	Month admitted.	Day of illness admitted.	Previous attacks.	Age when first attacked.	Family history.	Days of fever in hospital.	Days of pain in hospital.	Highest temp.	Joints, &c., affected.	Heart.			No. of days in hospital.	Result.	Treatment.	Remarks.
												Affection.	In which attack developed.	State on discharge.				
21 M. R.	F.	22	Mar.	10th	5	17	Phthisis both father's and mother's family, one brother died of phthisis	35	28	104·4°	All large joints and fingers	Pericarditis, endocarditis	Present	Mitral regurgitation	59	Recovery	—	Pneumonia at left base during attack.
22 C. M.	M.	18	„	10th week	0	18	Father died of phthisis	39	28	104°	Wrists and fingers, knees and ankles	„	„	Double aortic mitral systolic	69	„	Port, brandy	Much effusion into pericardium. Great pain in precordial region; delirium; bronchitis. Exposed to cold at commencement of attack. Shortness of breath first noticed one week before admission.
23 W. A.	M.	25	„	8th	1	24	Paternal aunt died of phthisis	4	2	100°	Knees and ankles	—	—	—	14	„	Pot. iod., alkalies	Attack commenced with sore-throat.
24 J. M.	M.	16	„	3rd	3	15	Family healthy	4	4	103°	Both knees	—	—	—	15	„	Sodæ sal., tinct. ferri perchlor.	—

25	F.	19	„	4th	0	19	Father acute rheumatism	15	13	101°	Both knees, left ankles	—	—	—	32	„	Sodæ sal., alkalies	Attack preceded by tonsillitis. Very anæmic.
26 A. G.	M.	14	April	15th	2	11	Family healthy	27	26	104·6°	Knees, ankles, wrists, fingers	Endocarditis	?	Double aortic mitral systolic	56	„	—	Attack complicated by presence of double pneumonia.
27 C. E.	M.	17	„	20th	1	16	„	28	4	102·4°	Knees and shoulders	Endocarditis, Pericarditis	?	„	48	„	Tinct. digitalis, Decoct. scoparii	On admission there was pleural effusion at the left base, this was removed by aspiration.
28 M. G.	M.	34	„	15th	2	26	Father gout, 1 brother insane	12	23	102·2°	Shoulders, wrists, fingers	Pericarditis	Present	Heart-sounds clear	40	„	Sodæ sal.	Free beer and spirit drinker.
29 J. F.	M.	27	May	7th	1	24	Paternal grandfather & father gout, 2 brothers gout	8	5	102·6°	Wrists, fingers	—	—	—	19	„	Sodæ sal., potass. iod., alkalies	—
30 W. H.	M.	18	June	5th	0	18	Father sciatica	3	10	102·8°	Knees	—	—	—	34	„	Sodæ sal.	Patient returned to hospital a few weeks after discharge, suffering with severe chorea.
31 R. P.	F.	41	July	10th	0	41	Family healthy	5	2	103°	Right ankle, right wrist	—	—	—	12	„	„	—
32 M. A. W.	F.	36	„	6th	2	34	„	10	10	102·4°	All large joints	—	—	—	27	„	Potass. bicarb.	—

TABLE C—*continued.*

No. and name.	Sex.	Age.	Month admitted.	Day of illness admitted.	Previous attacks.	Age when first attacked.	Family history.	Days of fever in hospital.	Days of pain in hospital.	Highest temp.	Joints, &c., affected.	Heart.			No. of days in hospital.	Result.	Treatment.	Remarks.
												Affection.	In which attack developed.	State on discharge.				
33 E. M.	F.	18	Aug.	4th	1	16	Family healthy	2	5	100·4°	Elbows, knees, wrists, ankles	Endo-carditis	?	Mitral regurgitation	15	Recovery	Sodæ sal.	—
34 E. P.	M.	13	„	7th	0	13	„	4	3	99°	Both knees	—	—	—	13	„	—	—
35 J. C.	M.	17	„	7th	1	13	Mother had acute rheumatism twice	7	14	101·4°	Both ankles, left knee and wrist	Endo-carditis	?	Mitral regurgitation	20	„	Sodæ sal.	—
36 M. S.	F.	19	„	7th	0	19	Father rheumatism	5	4	100·4°	Both ankles	peri-carditis	Present	Systolic murmur at apex	15	„	„	—
37 C. P.	F.	63	„	13th	3	23	Family healthy	4	5	101·2°	Both knees and ankles	Endo-carditis	?	Mitral regurgitation	35	„	„	Urine albuminous.
38 M. C.	F.	21	„	6th	0	21	Mother died of phthisis, 1 sister acute rheumatism	4	3	101·6°	Knees and back	—	—	—	9	„	—	—

39 H. O'N.	M.	30	„	3rd	0	30	Family healthy	5	3	102°	Both knees and ankles, right elbow and shoulder	—	—	—	26	„	Sodæ sal., alkalies	—
40 T. J.	M.	27	Sept.	7th	1	13	„	7	7	102·6°	Right wrist, both knees	—	—	—	26	„	Sodæ sal.	—
41 A. P.	M.	23	„	14th	0	23	Brother acute rheumatism	4	6	100°	Both knees	—	—	—	18	„	—	—
42 E. J.	F.	27	„	3rd	0	27	Family healthy	6	6	102·4°	Elbows and knees	—	—	—	20	„	Potass. cit., potass. bicarb.	—
43 E. S.	M.	16	„	7th	0	16	Mother had acute rheumatism	3	14	100·4°	Left shoulder, elbow, and wrist	Endocarditis	?	Mitral regurgitation	28	„	—	A few weeks after leaving hospital the patient attended as out-patient with chorea, the movements being general, but most marked on right side.
44 J. M.	M.	16	„	10th	4	15	Family healthy	3	2	102·2°	Knees, ankles, wrists	„	Present	„	23	„	—	—
45 H. J.	M.	30	Oct.	14th	0	30	Father died of phthisis	3	4	101°	Knees and ankles	—	—	—	5	No relief	Sodæ sal., chlorat. hydrate	Patient very restless and sleepless, lips and hands tremulous; left hospital at own request.

TABLE C—*continued.*

No. and name.	Sex.	Age.	Month admitted.	Day of illness admitted.	Previous attacks.	Age when first attacked.	Family history.	Days of fever in hospital.	Days of pain in hospital.	Highest temp.	Joints, &c., affected.	Heart.			No. of days in hospital.	Result.	Treatment.	Remarks.
												Affection.	In which attack developed.	State on discharge.				
46 L. M.	F.	10	Oct.	7th	1	7	Patient's uncle had chorea, maternal grandfather hemiplegia	3	3	101·8°	Ankles	Endocarditis	Present	Mitral regurgitation	20	Recovery	Sodæ sal., pulv. ipecac. co., potass. citrat.	After four 10-gr. doses of sod. sal. patient became excited and very noisy, suffering from hallucinations of sight, and getting out of bed and trying to dress herself. She was removed to extra ward, the condition lasting the whole of the next day; the patient then had a good night. The salicyl. was stopped on account of these symptoms.
47 D. H.	F.	26	„	6th	0	26	Mother died of cancer	20	35	104·2°	Knees, ankles, right elbow, fingers both hands	Pericarditis, endocarditis	„	„	50	„	Sodæ sal., potass. bicarb., brandy	Severe attack. Pericarditis, attended with severe pain, in precordial region, small effusion.
48 H. M.	F.	37	„	21st	1	27	Family healthy	17	25	102·4°	Knees, ankles, shoulders	—	—	—	28	„	Alkalies, sodæ sal., quiniæ sulph.	—

49 A. B.	F.	24	„	6th	0	24	Mother died of phthisis	14	14	102·8°	Left wrist and fingers, right ankle	Endo-carditis	Pre-sent	Mitral regurgi-tation	42	„	Ammon. carb., brandy	Very prostrate on admission. Tongue, lips, and hands tremulous. Delirious.
50 H. C.	M.	16	„	6th week	0	16	1 brother acute rheuma-tism, mo-ther gout	3	2	102°	Left knee	Peri-carditis, endo-carditis	„	„	15	„	Sodæ sal., potass. cit.	—
51 W. P.	M.	36	„	14th	0	36	1 brother epileptic	3	5	99·8°	Right wrist and fingers	—	—	—	11	„	Potass. iodid., potass. bicarb.	—
52 A. D.	F.	15	Nov.	10th	0	15	Mother died of phthisis	29	38	102°	Both ankles, left wrist	—	—	—	38	—	Sodæ sal., alkalies, mistura guaiaci	Removed to surgical ward, as there was evidence of disease of left ankle.
53 J. S.	M.	29	„	4th	3	10	Maternal grand-father insane	3	3	103°	Wrists and fingers	Endo-carditis	?	Aortic regurgi-tation, mitral regurgi-tation	11	Reco-very	Sodæ sal.	—
54 E. G.	M.	33	„	28th	2	25	Father died of hemi-plegia, one sister phthisis	6	7	101°	Right knee and ankle	—	—	—	16	„	„	—
55 L. M.	F.	23	„	3rd	1	19	Paternal grand-mother insane, brother insane	3	6	100·6°	Should-ers, knees, ankles, left wrist	Endo-carditis	?	Mitral regurgi-tation	15	„	„	—

TABLE C—*continued.*

No. and name.	Sex.	Age.	Month admitted.	Day of illness admitted.	Previous attacks.	Age when first attacked.	Family history.	Days of fever in hospital.	Days of pain in hospital.	Highest temp.	Joints, &c., affected.	Heart.			No. of days in hospital.	Result.	Treatment.	Remarks.
												Affection.	In which attack developed.	State on discharge.				
56 J. P.	M.	37	Nov.	14th	0	37	1 brother insane	17	21	103°	Knees, ankles, wrists, fingers	Pericarditis	Present	Heart-sounds clear	92	Recovery	Sodæ sal., alkalies, pulv. ipecac. co.	—
57 E. C.	F.	16	„	7th	0	16	Father hemiplegia, mother acute rheumatism	18	7	104·8°	Knees and ankles	Pericarditis, endocarditis	„	Mitral regurgitation	61	„	Sodæ sal., quiniæ sulphas	Tonsillitis immediately before attacks. Considerable effusion into pericardium.
58 G. S.	M.	33	Dec.	3rd	1	33	Mother died of phthisis, brother acute rheumatism, cousin insane	4	5	102·6°	Ankles, shoulders, left elbow, and fingers	Endocarditis	„	„	34	„	Sodæ sal.	Slept in a damp room for some weeks before attack.
59 T. O.	M.	22	„	3rd	3	9	Mother acute rheumatism, maternal grandmother insane	10	7	102°	Right shoulder, right elbow	„	?	Aortic obstruction and regurgitation	14	„	Sodæ sal., quiniæ sulphas, brandy	Free beer drinker. Left ventricle greatly hypertrophied. Had experienced no symptoms of cardiac disease.

60 H. P.	F.	19	„	4th	0	19	Sister phthisis, paternal uncle phthisis, brother epilepsy	3	2	101·4°	Left hip and back	—	—	—	8	„	Sodæ sal., quiniæ sulphas	—
61 F. R.	M.	23	„	5th	0	23	Family healthy	8	15	102°	Left knee and ankle, right wrist	Peri-carditis	Pre-sent	Heart-sounds clear	29	„	Sodæ sal., alkalies, pulv. ipecac.co.	Heavy beer drinker.
62 C. S.	M.	39	„	6th	1	37	Father gout, maternal aunt insane	3	7	100°	Left knee and hip	—	—	—	17	„	Sodæ sal., pulv. ipecac.co.	Delirium at night for several nights. Has had epileptic attacks for last 11 years.
63 E. P.	F.	23	„	3rd	5	10	Paternal grand-mother insane, father epileptic, mother acute rheuma-tism	2	3	100·6°	Knees and ankles	Endo-carditis	?	Mitral regurgi-tation	26	„	Alkalies, potassii iodidum	—

Table D.—*Chorea.*

During the years 1881-2-3-4-5 106 cases of chorea have been treated in the hospital. A summary of these cases is prefixed to the analysis of the cases of the year 1885.

Inheritance.

Rheumatism	37
Neurosis	37
Phthisis	12
Gout	4

Sex.

	Males.	Females.
1881	6	14
1882	4	18
1883	3	14
1884	11	17
1885	7	12
Total	31	75

Ages.

	Under 5.	5—10.	10—20.	20—30.	30—40.	40—50.	50—60.
1881	0	4	17	1	0	0	0
1882	0	4	13	2	1	0	0
1883	1	4	10	2	0	0	0
1884	0	8	17	2	0	0	1
1885	0	3	14	1	0	1	0
	1	23	71	8	1	1	1

Rheumatism.—There was a history of acute rheumatism in 30 cases. The relation of the acute rheumatism to the chorea was as follows:—In 8 cases the rheumatism was suggested as the cause; in 9 cases the attack of rheumatism was developed during the course of the chorea; in the remaining 13 cases there was a distinct interval of good health between the rheumatism and chorea; viz. 6 years, 5 years, 4 years, 3 years, 2 years, 1 year (2), 7 months, 6 months, 4 months, 3 months, 2 months, 1 month.

Cause.—In 66 cases of the whole the causes assigned by the friends were fright, sorrow, or overwork at school.

Heart.—In 17 cases a mitral systolic murmur, constant in force and rhythm, was audible; of these 17 cases 8 had suffered acute rheumatism previously. In 46 cases a murmur was heard over the apex occasionally only, the murmur varying in time and intensity, and having quite disappeared at the discharge of the patient.

TABLE D—*continued.*

No. and name.	Family history.	Previous illness, with special reference to rheumatism.	Previous chorea.	Sex.	Age.	Heart condition.	Part of body affected.	Cause.	Result.	Days in hosp.	Remarks.
1 B. S.	Father acute rheumatism	Acute rheumatism	0	F.	14	—	General, most marked right side, speech much affected	Fright at seeing girl in white sheet in dark	Relief	91	Very severe and prolonged attack. Acute rheumatism two months before attack. Sore over shoulders and hips from constant movement. Great improvement on discharge. Treated with succus conii and Ol. morrhuæ.
2 R. B.	Healthy family	„	2	F.	14	Mitral regurgitation	Face, arms, and legs, most marked on right side	—	„	34	First attack occurred 2 years after attack of acute rheumatism.
3 L. B.	Sister chorea and acute rheumatism	Whooping-cough and measles	1	F.	13	—	Face, right arm and leg, slight movement left arm and leg	Fright from witnessing accident to mother	Recovery	23	Patient was in hospital 9 months previously with chorea. During the interval had been quite free from chorea.
4 E. E.	Father rheumatism, marked history of phthisis in mother's family	Measles, whooping-cough, scarlet fever	0	F.	12	Action irregular, no murmur	Movements general, most marked right side	Frightened by a fire occurring at back of house	„	16	Attack commenced with indistinctness of speech and fidgeting.

TABLE D—*continued.*

No. and name.	Family history.	Previous illness, with special reference to rheumatism.	Previous chorea.	Sex.	Age.	Heart condition.	Part of body affected	Cause.	Result.	Days in hosp.	Remarks.
5 E. P.	Family healthy	—	3	F.	14	Systolic murmur at apex	Slight general movements	—	Relief	12	Patient's intelligence of low order. Still in 1st standard at school.
6 G. H.	Maternal grandmother epileptic	Acute rheumatism, infantile convulsions	0	M.	10	Mitral regurgitation	Movements general	Frightened by being struck at school	Recovery	57	Commenced with "speechlessness." Slight attack of acute rheumatism during residence in hospital.
7 D. B.	Mother acute rheumatism	Scarlet fever	1	M.	8	Action irregular, no murmur	"	Accidentally scalded his arm	"	29	Present attack 12 months after first. Previous attack attributed to overwork at school. Patient accidentally scalded his arm just before the second attack.
8 G. W.	Mother acute rheumatism, brother acute rheumatism	—	1	F.	13	Action irregular, occasional murmur at apex	Movements general, most marked in arms	—	"	58	Previous attack occurred 2 years before admission and was caused by fright at school:—when standing up for punishment fell backwards and hurt herself.
9 A. S.	Maternal aunt acute rheumatism	Pertussis	0	F.	12	Action irregular, occasional murmur at apex	Movements general, more marked on right side	Kept in school after hours every day for a week as punishment for bad writing	Relief	39	Severe attack. Speech much affected. Patient unable to feed herself.

10 D. L.	Father acute rheumatism	Good health	0	M.	9	—	Movements general	Excited about school examination	Recovery	128	Very severe and prolonged attack. Patient passed into a weak mental condition, not speaking, and passing evacuations into bed. Movements incessant and ample. There was marked paresis of right arm and leg.
11 C. W.	Father died of phthisis, paternal grandfather hemiplegia	Scarlet fever	0	M.	8	Action regular	Movements general, more marked on right side	Attack followed punishment (caning) at school	Relief	62	Severe attack. Child described as always "very nervous." Had been considerably distressed by home lessons before attack—lying awake and "thinking of sums."
12 K. R.	—	—	—	F.	11	No murmur, but action irregular	Movements chiefly of arms and face	—	Recovery	26	—
13 A. R.	Family healthy	Acute rheumatism	1	F.	13	No murmur, action irregular	Left upper extremity and face	First attack after overwork at school	„	10	The present attack commenced five months before admission; no cause could be assigned.
14 W. H.	Mother died of phthisis	„	0	M.	18	—	Trunk, arms, face	Attack preceded by acute rheumatism	„	90	Patient left hospital 14 days before attack, having had acute rheumatism. Very severe attack, movements being incessant and ample; facial muscles much affected.
15 T. W.	Father died of alcoholism, one brother rheumatism	Good health	0	M.	47	—	Movements general	—	No change	3	Attack of 3 years' duration.

TABLE D—*continued.*

No. and name.	Family history.	Previous illness, with special reference to rheumatism.	Previous chorea.	Sex.	Age.	Heart condition.	Part of body affected	Cause.	Result.	Days in hosp.	Remarks.
5 E. P.	Family healthy	—	3	F.	14	Systolic murmur at apex	Slight general movements	—	Relief	12	Patient's intelligence of low order. Still in 1st standard at school.
6 G. H.	Maternal grandmother epileptic	Acute rheumatism, infantile convulsions	0	M.	10	Mitral regurgitation	Movements general	Frightened by being struck at school	Recovery	57	Commenced with "speechlessness." Slight attack of acute rheumatism during residence in hospital.
7 D. B.	Mother acute rheumatism	Scarlet fever	1	M.	8	Action irregular, no murmur	„	Accidentally scalded his arm	„	29	Present attack 12 months after first. Previous attack attributed to overwork at school. Patient accidentally scalded his arm just before the second attack.
8 G. W.	Mother acute rheumatism, brother acute rheumatism	—	1	F.	13	Action irregular, occasional murmur at apex	Movements general, most marked in arms	—	„	58	Previous attack occurred 2 years before admission and was caused by fright at school:—when standing up for punishment fell backwards and hurt herself.
9 A. S.	Maternal aunt acute rheumatism	Pertussis	0	F.	12	Action irregular, occasional murmur at apex	Movements general, more marked on right side	Kept in school after hours every day for a week as punishment for bad writing	Relief	39	Severe attack. Speech much affected. Patient unable to feed herself.

10 D. L.	Father acute rheumatism	Good health	0	M.	9	—	Movements general	Excited about school examination	Recovery	128	Very severe and prolonged attack. Patient passed into a weak mental condition, not speaking, and passing evacuations into bed. Movements incessant and ample. There was marked paresis of right arm and leg.
11 C. W.	Father died of phthisis, paternal grandfather hemiplegia	Scarlet fever	0	M.	8	Action regular	Movements general, more marked on right side	Attack followed punishment (caning) at school	Relief	62	Severe attack. Child described as always "very nervous." Had been considerably distressed by home lessons before attack—lying awake and "thinking of sums."
12 K. R.	—	—	—	F.	11	No murmur, but action irregular	Movements chiefly of arms and face	—	Recovery	26	—
13 A. R.	Family healthy	Acute rheumatism	1	F.	13	No murmur, action irregular	Left upper extremity and face	First attack after overwork at school	„	10	The present attack commenced five months before admission; no cause could be assigned.
14 W. H.	Mother died of phthisis	„	0	M.	18	—	Trunk, arms, face	Attack preceded by acute rheumatism	„	90	Patient left hospital 14 days before attack, having had acute rheumatism. Very severe attack, movements being incessant and ample; facial muscles much affected.
15 T. W.	Father died of alcoholism, one brother rheumatism	Good health	0	M.	47	—	Movements general	—	No change	3	Attack of 3 years' duration.

TABLE D—*continued.*

No. and name.	Family history.	Previous illness, with special reference to rheumatism.	Previous chorea.	Sex.	Age.	Heart condition.	Part of body affected.	Cause.	Result.	Days in hosp.	Remarks.
16 E. G.	Family healthy	Acute rheumatism	0	F.	14	Systolic murmur at apex	Movements general, more marked left side and face	Frightened at seeing a baby fall over	Relief	14	Two attacks of acute rheumatism. The attack was of 14 days' duration on admission, and the movements commenced in left side directly after the fright. There was considerable weakness of left arm and leg.
17 E. C.	Father died of phthisis, brother epileptic	„	0	F.	23	Systolic murmur at left base	Movements general, most marked left side	Apparently worry, anxiety, and bad living	„	13	Movements most marked left upper extremity. The patient was very emotional, and easily excited to tears and laughter.
18 M. S.	Family healthy	Good health	0	F.	12	—	Movements general, most marked left side and face	—	„	69	Severe attack. No cause could be assigned. Child described as slow at learning, being still in first standard.
19 C. H. D.	Mother had chorea when a child	Acute rheumatism	2	M.	14	Mitral regurgitant	Movements of left arm and leg and of face	—	„	30	The first attack occurred two years since, and commenced the day after a visit to the Tower, where he was much excited. The second attack commenced a month after end of first attack, and lasted 2 months. He was then well for 4 months, when the present attack commenced.

TABLE E.—*List of Deaths in the Medical Wards.*

	Males.		Females.
GENERAL DISEASES:			
Enteric fever	3	...	1
Diphtheria	3	...	5
Acute rheumatism	1	...	1
Tuberculosis	6	...	5
NERVOUS SYSTEM:			
Meningitis	1	...	0
Hydrocephalus	2	...	0
Hæmorrhage into brain	1	...	2
Abscess of brain	1	...	0
Mania	1	...	0
CIRCULATORY SYSTEM:			
Dilatation of heart	5	...	4
Mitral disease	3	...	8
Aortic disease	3	...	1
Cyanosis	1	...	0
Aneurysm	2	...	0
Exophthalmic goitre	0	...	1
RESPIRATORY SYSTEM:			
Chronic bronchitis	0	...	4
Lobular pneumonia	3	...	2
Lobar „	8	...	2
Empyema	1	...	1
Phthisis	11	...	6
Malignant disease of lung	1	...	0
DIGESTIVE SYSTEM:			
Ulcer of stomach	0	...	1
Cancer of stomach	1	...	0
Enteritis	1	...	1
Colitis	0	...	1
Malignant disease of colon	1	...	1
Jaundice	1	...	0
Cirrhosis	1	...	0
Abscess of liver	0	...	1
Syphilitic disease of liver	0	...	1
Inflammation of pancreas	0	...	1
Malignant disease of peritoneum	2	...	2
Acute peritonitis	0	...	1
Chronic „	1	...	2
Addison's disease	1	...	0

TABLE E—*continued.*

URINARY SYSTEM:			
Acute nephritis	1	...	1
Large white	2	...	2
Contracted granular	2	...	2
Total	71	...	60

SURGICAL REGISTRAR'S REPORT FOR THE YEAR 1885.

By WALTER ARTHUR.

The total number of cases under treatment in the surgical wards during the past year was 964, viz.:

	Males.	Females.	Total.
Remaining in hospital December 31st, 1884	42	33	75
Admitted during the year 1885			889
			964
Of these there were:			
Discharged, cured or relieved	488	323	811
„ unrelieved	14	3	17
„ for special reasons	7	2	9
Transferred to the medical wards	3	4	7
Died	35	10	45
In hospital December 31st, 1885	48	27	75
			964

The mortality during the year was 4·66 per cent.

TABLE I.—*Showing the total number of Cases of each Disease or Injury which were Discharged or Died during the year* 1885.

DISEASES.	Total.	Discharged.		Died.		In hosp. 31st Dec., '85	
		M.	F.	M.	F.	M.	F.
Scarlatina	1	...	...	...	...	1	...
Erysipelas:							
i. Admitted:							
a. Cutaneous	2	1	1	...	...	...	...
b. Cellulo-cutaneous	1	...	...	...	1	...	...
ii. Arising in hospital:							
a. Cutaneous	4	2	2	...	...	...	...
b. Cellulo-cutaneous	3	...	...	2	1	...	...
Septicæmia	1	...	1	...	...	...	...
Pyæmia	2	1	...	1	...	...	...
Leprosy	1	1	...	...	...	...	...
Gout	1	...	...	...	...	1	...
Uræmia	1	...	...	1	...	...	...
Rickets	3	...	3	...	...	...	...
RHEUMATISM:							
a. Acute	2	1	1	...	...	...	...
b. Gonorrhœal	4	2	1	...	...	1	...
c. Chronic rheumatic arthritis	2	...	2	...	...	...	...
SYPHILIS:							
Chancre of conjunctiva	1	...	1	...	...	...	...
„ lip	1	...	1	...	...	...	...
„ thigh	1	1	...	...	...	...	...
Iritis	2	2	...	...	...	...	...
Laryngitis	2	...	2	...	...	...	...
Ulcers	13	2	11	...	...	...	...
Necrosis	1	1	...	...	...	...	...
Nodes	1	...	1	...	...	...	...
Squamæ	3	...	3	...	...	...	...
Purpura	2	1	1	...	...	...	...
Rupia	1	...	1	...	...	...	...
Sarcocele	1	1	...	...	...	...	...
Condylomata	1	...	1	...	...	...	...
Gummata	1	1	...	...	...	...	...
Stricture of rectum	2	...	2	...	...	...	...
Hereditary	1	1	...	...	...	...	...
TUMOURS:							
Hard carcinoma:							
i. *Primary:*							
Breast	7	...	6	...	1	...	...
Rectum	6	5	...	...	1	...	...
ii. *Secondary:*							
Breast	5	...	4	...	...	...	1
Soft carcinoma:							
Retro-peritoneal glands	1	...	...	1	...	...	...

TABLE I—*continued.*

DISEASES.	Total.	Discharged.		Died.		In hosp. 31st Dec., '85	
		M.	F.	M.	F.	M.	F.
TUMOURS—*continued.*							
Epithelioma:							
Tongue	1	1	...	...	...	...	...
Œsophagus	1	...	...	1	...	...	...
Arm	1	...	...	...	...	1	...
Groin	1	...	...	1	...	...	...
Labium	1	...	1	...	...	...	...
Anus	1	1	...	...	...	...	...
Sarcoma:							
Breast	1	...	1	...	...	...	...
Pelvis	1	1	...	...	...	...	...
Buttock	1	1	...	...	...	...	...
Thigh	2	...	...	1	...	1	...
Fibroma:							
Leg	1	...	1	...	...	...	...
Adenoma:							
Breast	3	...	3	...	...	...	...
Lipoma:							
Shoulder	1	...	1	...	...	...	...
Loin	1	1	...	...	...	...	...
Palm	1	1	...	...	...	...	...
Papilloma:							
Foot	1	1	...	...	...	...	...
Enchondroma:							
Leg	1	1	...	...	...	...	...
Cysts:							
i. *Simple:*							
Forehead	1	1	...	...	...	...	...
ii. *Sebaceous:*							
Scalp	2	1	1	...	...	...	...
Cheek	1	1	...	...	...	...	...
Breast	1	...	1	...	...	...	...
Shoulder	1	...	...	...	...	...	1
iii. *Ovarian*	3	...	1	...	2	...	...
MALFORMATIONS:							
Cleft palate	4	3	1	...	...	...	...
Harelip	1	1	...	...	...	...	...
DEFORMITIES:							
Torticollis	2	2	...	...	...	...	...
Genu valgum	8	5	3	...	...	...	...
Talipes varus	3	2	1	...	...	...	...
„ valgus	1	...	1	...	...	...	...
„ equino-varus	3	2	...	...	...	1	...
„ planus	2	...	2	...	...	...	...
RESULT OF INJURY:							
Old excision of knee	2	...	2	...	...	...	...
„ tibia	1	1	...	...	...	...	...

TABLE I—*continued.*

DISEASES.	Total.	Discharged.		Died.		In hosp. 31st Dec., '85	
		M.	F.	M.	F.	M.	F.
DISEASES OF THE NERVOUS SYSTEM:							
Cerebral hæmorrhage	1	...	...	1	...	...	...
„ meningitis	1	...	...	...	...	1	...
Trismus	2	2	...	...	...	...	...
Locomotor ataxy	1	...	1	...	...	..	...
Paralysis of bladder	1	1	...	...	...	...	...
Sciatica	3	2	...	1	...	...	...
Neuralgia	2	...	2	...	...	...	...
Neuro-mimesis	1	1	...	...	...	...	...
DISEASES OF THE EYE:							
Conjunctivitis (catarrhal)	2	1	1	...	...	...	...
„ (purulent)	1	...	1	...	...	...	...
Chancre on conjunctiva	1	...	1	...	...	...	...
Keratitis (strumous)	3	3	...	...	...	...	...
„ (traumatic)	1	1	...	...	...	...	...
Ulcer of cornea	1	...	1	...	...	...	...
Onyx	1	1	...	...	...	...	...
Pannus	2	1	1	...	...	...	...
Iritis	2	1	...	...	...	1	...
„ (syphilitic)	2	2	...	...	...	...	...
„ (traumatic)	1	1	...	...	...	...	...
Synechia (anterior)	1	1	...	...	...	...	...
Cataract	5	2	2	...	...	...	1
„ (traumatic)	4	4	...	...	...	...	...
Hyperæmia of disc	1	1	...	...	...	...	...
Optic neuritis	3	...	3	...	...	...	...
Buphthalmos	1	...	1	...	...	...	...
Shrivelled globe	1	...	1	...	...	...	...
Foreign body	1	1	...	...	...	...	...
DISEASES OF APPENDAGES OF EYE AND ORBIT:							
Trichiasis	3	1	1	...	...	...	1
Strabismus	2	2	...	...	...	...	...
DISEASES OF THE EAR:							
Ruptured tympanum	1	...	1	...	...	...	...
DISEASES OF THE NOSE:							
Polypus	2	...	2	...	...	...	...
DISEASES OF THE CIRCULATORY SYSTEM:							
Aneurysm (axillary)	1	...	...	...	...	1	...
„ (popliteal)	1	1	...	...	...	...	...
Nævus	4	2	2	...	...	...	...
Phlebitis	5	2	2	...	...	...	1
Varicose veins	3	3	...	...	...	...	...
DISEASES OF THE RESPIRATORY SYSTEM:							
Pneumonia	1	...	1	...	...	...	...

TABLE I—*continued.*

DISEASES.	Total.	Discharged.		Died.		In hosp. 31st Dec., '85	
		M.	F.	M.	F.	M.	F.
DISEASES OF THE ABSORBENT SYSTEM:							
Glands:							
i. Inflammation	4	2	2	...	...	...	...
ii. Suppuration	15	6	7	...	...	1	1
Malignant disease of cervical glands	1	...	...	1	...	...	...
DISEASES OF THE DIGESTIVE SYSTEM:							
Tongue:							
Epithelioma	1	1	...	...	...	...	..
Œsophagus:							
Epithelioma	1	...	...	1	...	...	...
Mouth:							
Aphthæ	1	...	1	...	...	...	...
Gangrenous stomatitis	1	...	...	...	1	...	...
Dysphagia	1	1	...	...	...	...	...
Dyspepsia	1	...	...	...	...	1	...
Intestines:							
Constipation	1	...	...	...	...	...	...
Hernia:							
Reducible	5	3	2	...	...	...	...
Irreducible	3	1	1	...	...	1	...
Incarcerated	2	1	1	...	...	...	...
Congenital	7	7	...	...	...	...	...
Strangulated:							
Inguinal	7	6	1	...	...	...	...
Intussusception	1	1	...	...	...	...	...
Malignant disease of colon	1	1	...	...	...	...	...
Rectum and Anus:							
Carcinoma	6	5	...	...	1	...	...
Epithelioma	1	1	...	...	...	...	...
Stricture (fibrous)	1	1	...	...	...	...	...
„ (syphilitic)	2	...	2	...	...	...	...
Ulcer	1	1	...	...	...	...	...
Polypus	1	...	1	...	...	...	...
Fistula	14	9	4	...	...	1	...
Hæmorrhoids	17	9	7	...	...	1	...
Fissure	1	1	...	...	...	...	...
Prolapsus	1	...	1	...	...	...	...
Melæna	1	...	1	...	...	...	...
DISEASES OF THE URINARY ORGANS:							
Kidney:							
Peri-nephritic abscess	2	2	...	...	...	...	...
Bladder:				...			
Extroversion of	1	...	1	...	...	...	...
Papillary growth of	1	...	1	...	...	...	...
Malignant growth of	1	1	...	...	...	...	...
Cystitis	2	2	...	1	...	...	...
Calculus	2	1	...	...	...	...	...
Hæmaturia	4	3	1	...	...	...	...
Incontinence	1	...	...	...	...	1	...

TABLE I—*continued.*

DISEASES.	Total.	Discharged.		Died.		In hosp. 31st Dec., '85	
		M.	F.	M.	F.	M.	F.
DISEASES OF THE URINARY ORGANS—*continued.*							
Prostate:							
Hypertrophy of	2	2	...	...	...	...	...
Calculus	1	1	...	...	...	...	...
Gonorrhœa and its Complications:							
Gonorrhœa	1	1	...	...	...	...	...
Venereal warts	1	1	...	...	...	...	...
Bubo	2	1	...	...	...	1	...
Orchitis	5	5	...	...	...	...	...
Rheumatism	4	2	1	...	...	1	...
Urethra:							
Stricture	20	14	...	2	...	4	...
„ (traumatic)	3	2	...	...	...	1	...
Laceration of	5	3	...	2	...	...	...
Calculus (impacted)	1	1	...	...	...	...	...
Penholder (impacted)	1	1	...	...	...	...	...
DISEASES OF THE GENERATIVE SYSTEM:							
MALE:							
Penis:							
Phimosis (congenital)	8	8	...	...	...	...	...
Tunica vaginalis:							
Hydrocele	3	3	...	...	...	...	...
Hæmatocele	1	1	...	...	...	...	...
Testis:							
Undescended	1	1	...	...	...	...	...
Cord:							
Varicocele	4	3	...	1	...	...	...
FEMALE:							
Pelvic hæmatocele	1	...	1	...	...	...	...
Ovarian tumour	3	...	1	...	2	...	...
Vulva:							
Abscess of labium	1	...	1	...	...	...	...
Epithelioma	1	...	1	...	...	...	...
Breast:							
Abscess (acute)	3	...	3	...	...	...	...
„ (chronic)	2	...	1	...	1	...	...
Scirrhus	7	...	6	...	1	...	...
„ (recurrent)	5	...	4	...	...	...	1
Sarcoma	1	...	1	...	...	...	...
Adenoma	3	...	3	...	...	...	...
Cysts (sebaceous)	1	...	1	...	...	...	...
Painful mammary tumour	1	...	1	...	...	...	...

TABLE I—*continued.*

DISEASES.	Total.	Discharged.		Died.		In hosp. 31st Dec., '85	
		M.	F.	M.	F.	M.	F.
DISEASES OF BONES:							
Periostitis:							
i. Acute:							
Radius	1	1	...	...	...	...	...
Tibia	3	2	1	...	...	...	...
ii. Chronic:							
Femur	1	1	...	...	...	...	...
Osteitis:							
i. Acute:							
Femur	1	...	...	1	...	...	...
ii. Chronic:							
Femur	1	...	1	...	...	...	...
Tibia	1	...	1	...	...	...	...
Necrosis:							
Nasal bones	1	1	...	...	...	...	...
Temporal bone	1	...	...	1	...	...	...
Upper jaw	1	...	1	...	...	...	...
Lower jaw	2	2	...	...	...	...	...
Phalanges (fingers)	7	3	4	...	...	...	...
Tibia	2	1	1	...	...	...	...
Fibula	1	1	...	...	...	...	...
Stump	1	1	...	...	...	...	...
Phalanges (toes)	1	1	...	...	...	...	...
Caries:							
Spine:							
Cervical	1	...	1	...	...	...	...
Upper and middle dorsal	14	7	4	...	...	3	...
Lower dorsal	6	2	4	...	...	...	...
Dorso-lumbar	11	8	2	...	...	1	...
Lumbar	7	3	4	...	...	...	...
Mastoid process	1	...	...	...	...	...	1
Head of humerus	1	...	...	...	...	1	...
Scapula	1	...	1	...	...	...	...
Carpus	2	1	...	...	...	1	...
Tibia	2	2	...	...	...	...	...
Tarsus	8	2	4	1	...	1	1
Metatarsus	3	1	2	...	...	...	...
DISEASES OF JOINTS:							
Synovitis:							
i. Acute:							
Elbow	2	1	1	...	...	...	...
Knee	10	4	5	...	...	...	1
Ankle	1	...	...	...	...	...	1
ii. Chronic:							
Knee	11	7	4	...	...	...	...
Morbus coxæ	29	13	7	1	...	4	4
Arthritis:							
i. Acute:							
Knee	1	...	1	...	...	...	...

TABLE I—*continued.*

DISEASES.	Total.	Discharged.		Died.		In hosp. 31st Dec., '85	
		M.	F.	M.	F.	M.	F.
DISEASES OF JOINTS—*continued.*							
Arthritis:							
ii. Chronic:							
Hip	1	1	...	...	...	...	...
Knee	1	...	1	...	...	...	...
iii. Strumous:							
Elbow	5	4	...	...	...	1	...
Knee	5	2	2	...	...	...	1
Ankle	4	2	1	...	...	1	...
Metacarpo-phalangeal-joint	1	1	...	...	...	...	...
Arthritis deformans	2	1	1	...	...	...	...
Ankylosis:							
i. Fibrous:							
Shoulder	5	2	3	...	...	...	...
Elbow	4	3	1	...	...	...	...
Knee	2	2	...	...	...	...	...
ii. Bony:							
Elbow	1	1	...	...	...	...	...
Hip	1	...	1	...	...	...	...
DISEASES OF MUSCLES, FASCIÆ, AND TENDONS:							
Lateral curvature of spine	9	4	5	...	...	...	...
Cyphosis	1	...	1	...	...	...	...
Contracted tendons	9	3	5	...	...	1	...
Bursæ:							
Inflammation:							
i. Acute:							
Olecranon	2	2	...	...	...	...	...
Patella	3	...	3	...	...	...	...
ii. Chronic:							
Patella	4	...	4	...	...	...	...
Semi-membranosus	1	...	1	...	...	...	...
DISEASES OF SKIN AND SUBCUTANEOUS TISSUE:							
Cellulitis:							
Upper limb	4	2	1	1	...	...	...
Pelvic	1	...	1	...	...	...	...
Abscess:							
i. Acute:							
Scalp	1	1	...	...	...	...	...
Eyelid	1	...	1	...	...	...	...
Ear	1	...	1	...	...	...	...
Jaw	5	1	3	...	...	1	...
Chin	1	...	1	...	...	...	...
Shoulder	2	1	1	...	...	...	...
Elbow	1	1	...	...	...	...	...
Thigh	2	2	...	...	...	...	...

TABLE I—*continued.*

DISEASES.	Total.	Discharged.		Died.		In hosp. 31st Dec., '85	
		M.	F.	M.	F.	M.	F.
DISEASES OF SKIN AND SUBCUTANEOUS TISSUE—*continued.*							
Abscess:							
i. Acute:							
Knee	1	...	...	...	...	1	...
Calf	3	...	3	...	...	...	...
Stump	1	1	...	...	...	...	...
Ischio-rectal fossa	3	3	...	...	...	...	...
Perineum	3	3	...	...	...	...	...
Foot	2	2	...	...	...	...	...
ii. Chronic:							
Lumbar	3	1	1	...	...	1	...
Iliac	2	2	...	...	...	...	...
Gluteal	1	1	...	...	...	...	...
Thigh	2	1	1	...	...	...	...
Gangrene:							
i. Moist	3	2	...	...	1	...	...
ii. Dry	3	...	1	1	...	1	...
Sinuses:							
Neck	1	1	...	...	...	...	...
Thigh	2	1	1	...	...	...	...
Ulcers:							
i. Simple:							
Thigh	1	1	...	...	...	...	...
Leg	7	2	4	1	...	...	...
Foot	1	...	1	...	...	...	...
Stump	1	...	1	...	...	...	...
ii. Varicose:							
Leg	4	2	2	...	...	...	...
iii. Strumous:							
Thigh	1	1	...	...	...	...	...
Leg	1	1	...	...	...	...	...
iv. Traumatic:							
Leg	1	1	...	...	...	...	...
Foot	1	...	1	...	...	...	...
Anthrax	2	2	...	...	...	...	...
Eczema	4	2	2	...	...	...	...
Lichen	1	...	1	...	...	...	...
Lupus	3	...	3	...	...	...	...
Rupia	1	...	1	...	...	...	...
Paronychia	2	...	2	...	...	...	...
Ingrowing toe-nail	1	1	...	...	...	...	...
Corns	1	...	1	...	...	...	...
UNCLASSIFIED:							
Painful stump	3	...	3	...	...	...	...
Inflamed leg	1	1	...	...	...	...	...
Pain in hip	1	1	...	...	...	...	...
Needle in arm	1	...	1	...	...	...	...
Destitution	1	1	...	...	...	...	...
Nil	1	...	1	...	...	...	...

TABLE I—*continued.*

INJURIES.	Total.	Discharged.		Died.		In hosp. 31st Dec., '85	
		M.	F.	M.	F.	M.	F.
Burns:							
Local	6	1	3	...	...	1	1
Scalds:							
Local	8	3	4	...	...	...	1
Contusions (general)	5	4	1	...	...	...	...
Immersion:							
i. Attempted suicide	3	1	1	...	...	...	1
ii. Accidental	1	1	...	...	...	...	...
Poisoning:							
i. Attempted suicide	1	...	...	...	...	...	...
ii. Accidental	2	1	1	...	...	...	...
Of head:							
Contusions	3	2	1	...	...	...	...
Scalp wounds (contused)	15	9	6	...	...	...	...
Fracture (vertex)	1	...	...	1	...	...	...
„ (base)	3	...	...	2	1	...	...
Concussion of brain	19	16	2	...	...	...	1
Of face:							
Contusion	1	1	...	...	...	...	...
Wound (contused)	1	...	1	...	...	...	...
„ (punctured)	1	1	...	...	...	...	...
„ (lacerated)	1	1	...	...	...	...	...
„ (gun-shot)	2	1	1	...	...	...	...
Of nose:							
Wound (contused)	1	1	...	...	...	...	...
Of eye:							
Contusion	1	1	...	...	...	...	...
Wound (lacerated)	3	2	1	...	...	...	...
Of ear:							
Wound (lacerated)	1	1	...	...	...	...	...
Of neck:							
Sprains	2	2	...	...	...	...	...
Cut throat (attempted suicide)	2	1	1	...	...	...	...
Fractured thyroid cartilage	1	1	...	...	...	...	...
Displaced cervical vertebra	1	1	...	...	...	...	...
Of back:							
Contusions	4	3	1	...	...	...	...
Of chest:							
Fractured ribs	17	10	5	2	...	...	...
Of abdomen:							
Contusions	3	3	...	...	...	...	...
Wounds (punctured)	1	1	...	...	...	...	...
Strained rectus abdominis	1	1	...	...	...	...	...
Of pelvis and genitals:							
Contusion of coccyx	1	...	1	...	...	...	...
Wound (gun-shot) of scrotum	1	...	...	...	...	1	...
Of upper extremity:							
Wounds (contused)	1	1	...	...	...	...	...
„ (incised)	2	2	...	...	...	...	...
„ (lacerated)	6	5	1	...	...	...	...
„ of radial artery	1	1	...	...	...	...	...
Crushed fingers	5	5	...	...	...	...	...

TABLE I—*continued.*

INJURIES.	Total.	Discharged.		Died.		In hosp. 31st Dec., '85	
		M.	F.	M.	F.	M.	F.
Of upper extremity—*continued.*							
Fractures:							
Clavicle	4	3	1	...	...	...	...
Neck of scapula	1	1	...	...	...	...	...
Humerus (upper third)	1	1	...	...	...	...	...
„ (middle)	3	2	1	...	...	...	...
Elbow-joint (compound)	1	1	...	...	...	...	...
Olecranon (ununited)	2	2	...	...	...	...	...
Of lower extremity:							
Contusions	15	9	5	...	...	1	...
Wounds (punctured)	3	3	...	...	...	...	...
„ (lacerated)	2	1	1	...	...	...	...
„ (contused)	2	1	1	...	...	...	...
„ (incised)	1	...	1	...	...	...	...
Sprains:							
Hip	2	2	...	...	...	...	...
Knee	1	1	...	...	...	...	...
Ankle	10	8	1	...	...	1	...
Fractures:							
Femur (intracapsular)	1	...	1	...	...	...	...
„ (extracapsular)	1	...	1	...	...	...	...
„ (upper third)	3	3	...	...	...	...	...
„ (middle)	9	4	2	...	...	2	1
„ (lower third)	2	2	...	...	...	...	...
„ (greenstick)	1	...	1	...	...	...	...
Patella (transverse)	5	3	1	...	...	1	...
Tibia (upper third)	1	...	1	...	...	...	...
„ (middle)	4	...	1	1	...	...	2
„ (lower third)	5	3	1	...	...	...	1
„ compound (upper third)	2	...	...	...	...	2	...
„ „ (lower third)	1	1	...	...	...	...	...
Fibula (upper third)	2	...	1	...	...	1	...
„ (middle)	2	2	...	...	...	...	...
„ (lower third)	6	3	3	...	...	...	...
Pott's	4	3	1	...	...	...	...
Tibia and fibula (middle)	4	2	2	...	...	...	...
„ (lower third)	6	6	...	...	...	...	...
„ (compound)	3	2	...	1	...	...	...
Femur (middle), with fractured humerus	1	...	...	1	...	...	...
Femur (compound comminuted), with fractured upper jaw and dislocated shoulder	1	...	...	1	...	...	...
Tibia and fibula (both legs), compound comminuted, complicated	1	1	...	...	...	...	...
Dislocations:							
Hip	2	...	2	...	...	...	...
„ (old)	1	1	...	...	...	...	...
Knee	2	1	1	...	...	...	...

TABLE II.—*Operations.*

OPERATIONS.	Total.	Discharged.		Died.		In hosp. 31st Dec., 1885.		Remarks.
		M.	F.	M.	F.	M.	F.	
HEAD AND NECK:								
For compound depressed fracture of parietal bone	1	...	...	1	...	...	...	Trephining; pneumonia.
„ serous cyst of forehead	2	2	...	...	...	...	...	Removal.
„ enlarged cervical glands	1	...	1	...	...	...	...	„
„ nasal polypus	1	...	1	...	...	...	...	„
„ epithelioma of tongue	1	1	...	...	...	...	...	Excision of half the tongue.
„ „ lip	1	...	1	...	...	...	...	
„ necrosis of upper jaw	1	...	1	...	...	...	...	Sequestrum removed.
„ „ lower jaw	2	2	...	...	...	...	...	
„ trismus	1	1	...	...	...	...	...	Excision of condyle.
„ nævus of chin	1	...	1	...	...	...	...	Actual cautery.
„ torticollis	1	1	...	...	...	...	...	
„ sinus over thyroid	1	1	...	...	...	...	...	
PLASTIC OPERATIONS:								
For wound of frontal sinus	1	...	...	1	...	...	...	Meningitis.
„ cleft palate	3	2	1	...	...	...	...	
„ harelip	1	1	...	...	...	...	...	
EYES:								
For growth on conjunctiva	1	...	1	...	...	...	...	Removal.
„ pannus	1	1	...	...	...	...	...	Peritomy.
„ trichiasis	1	1	...	...	...	...	...	Excision of bulbs.
„ cataract	11	7	4	...	...	...	...	9 needle, 2 extraction.
„ strabismus	2	2	...	...	...	...	...	
Iridectomy	6	3	3	...	...	...	...	
Enucleation of eyeball	4	2	2	...	...	...	...	
THORACIC REGION:								
For lipoma over scapula	1	...	1	...	...	...	...	Removal.
„ cyst over scapula	1	...	1	...	...	...	...	„
„ caries of scapula	2	1	1	...	...	...	...	Gouging.
„ scirrhus of breast	5	...	5	...	...	...	...	Ablation of breast.
„ „ (recurrent)	4	...	4	...	...	...	...	Removal.
„ cystic sarcoma of breast	1	...	1	...	...	...	...	„
„ adenoma of breast	1	...	1	..	...	...	...	„
„ sebaceous cyst of breast	1	...	1	...	...	...	...	„
„ painful mammary tumour	1	...	1	...	...	...	...	„
„ venous nævus of chest	1	1	...	...	...	...	...	„
ABDOMINAL REGION:								
For lipoma of loin	...	1	...	...	...	...	...	
„ the radical cure of hernia	8	8	...	...	...	...	...	

TABLE II—*continued.*

OPERATIONS.	Total.	Discharged.		Died.		In hosp. 31st Dec., 1885.		Remarks.
		M.	F.	M.	F.	M.	F.	
ABDOMINAL REGION — *continued.*								
For strangulated inguinal hernia	2	1	1	...	...	...	...	
„ strangulated congenital hernia	1	1	...	...	...	...	...	
„ large lumbar abscess	4	4	...	...	...	...	...	
„ large psoas abscess	1	1	...	...	...	...	...	
„ malignant disease of rectum	1	1	...	...	...	...	...	Colotomy.
„ ovarian tumour	3	...	1	...	2	...	...	Ovariotomy.
ABOUT RECTUM AND ANUS:								
For malignant growth of rectum	1	1	...	...	...	...	...	Excision of posterior wall.
„ stricture of rectum	2	...	1	...	1	...	...	Division.
„ hæmorrhoids	12	6	6	...	...	...	...	Clamp and cautery.
„ fistula in ano	14	10	4	...	...	...	...	
„ condylomata	2	...	2	...	...	...	...	
„ epithelioma of anus	1	1	...	...	...	...	...	
ON THE GENITO-URINARY ORGANS:								
For vesical calculus	1	...	...	1	...	...	...	Lithotomy; peritonitis.
„ prostatic calculus	1	1	...	...	...	...	...	
„ congenital phimosis	10	10	...	...	...	...	...	Circumcision.
„ stricture of the urethra	12	10	...	...	...	2	...	4 dilated, 5 Holted, 3 perineal section.
„ urethral fistulæ	3	3	...	...	...	...	...	
„ ruptured urethra	2	1	...	1	...	...	...	Perineal section.
„ varicocele	4	3	...	1*	...	...	...	Radical cure. * Erysipelas of abdomen, peritonitis.
„ hydrocele	2	2	...	...	...	...	...	Radical cure.
„ undescended testis	1	1	...	...	...	...	...	Brought down and secured to the bottom of the scrotum.
„ pelvic hæmatocele	1	...	1	...	...	...	...	Tapped. Transferred to the obstetric ward.
ON UPPER LIMB:								
For anæsthetic leprosy	2	2	...	...	...	...	...	Nerve stretching.
„ fibrous ankylosis of shoulder	1	1	...	...	...	...	...	Adhesions broken down.
„ large chronic abscess of shoulder	1	1	...	...	...	...	...	

Table II—*continued.*

OPERATIONS.	Total.	Discharged.		Died.		In hosp. 31st Dec., 1885.		Remarks.
		M.	F.	M.	F.	M.	F.	
On Upper Limb—*continued.*								
For caries of head of humerus	1	...	...	...	...	1	...	Excision.
„ epithelioma of arm	1	...	...	...	...	1	...	Removal.
„ ununited fracture of olecranon	1	1	...	...	...	...	...	Wired.
„ compound fracture of elbow	1	1	...	...	...	...	...	Joint excised.
„ strumous disease of elbow	2	1	...	...	...	1	...	„
„ bony ankylosis of elbow	1	1	...	...	...	...	...	„
„ fibrous ankylosis of elbow	3	2	1	...	...	...	...	Adhesions broken down.
„ wound of radial artery	1	1	...	...	...	...	...	Ligature of brachial.
„ lipoma of palm	1	1	...	...	...	...	...	
„ necrosis of thumb	1	...	1	...	...	...	...	Phalanx excised.
„ crushed thumb	1	1	...	...	...	...	...	„
On Lower Limb:								
For morbus coxæ	10	5	1	1	...	3	...	5 excisions. 2 sciatic stretched, 1 trephined, 2 joint incised.
„ bony ankylosis of hip	2	1	1	...	...	...	...	Osteotomy of femur.
„ malignant growth of buttock	1	1	...	...	...	...	...	
„ chronic rheumatic arthritis	3	...	3	...	...	...	...	2 sciatic stretched, 1 trephining.
„ sciatica	1	...	...	...	...	1	...	Nerve stretching.
„ anæsthetic leprosy	1	1	...	...	...	...	...	„
„ lympho-sarcoma of groin	1	...	...	1	...	...	...	Removal; gangrene of leg; amputation.
„ bowed femur (rickets)	1	...	...	...	...	1	...	Osteotomy.
„ osteitis of femur	1	...	1	...	...	...	...	Trephining.
„ diffuse popliteal aneurism	2	2	...	...	...	...	...	
„ strumous disease of knee	2	1	1	...	...	...	...	Joint laid open.
„ consolidated bursa patellæ	1	...	1	...	...	...	...	Removal.
„ bursa in the popliteal space	1	...	1	...	...	...	...	Tapped.
„ genu valgum	9	4	5	...	...	...	...	7 Ogston's, 2 MacEwan's.
„ fibrous ankylosis of knee	5	2	1	...	...	...	2	Adhesions broken down.
„ fibroid tumour of leg	1	...	1	...	...	...	...	Removal.
„ enchondroma of tibia	1	1	...	...	...	...	...	„
„ chronic osteitis of tibia	1	...	1	...	...	...	...	Trephining.
„ necrosis of tibia	6	5	...	...	...	1	...	
„ „ fibula	1	1	...	...	...	...	...	Fibula excised.
„ bow-legs	1	...	1	...	...	...	...	Osteotomy of both tibiæ.

TABLE II—*continued.*

OPERATIONS.	Total	Discharged.		Died.		In hosp. 31st Dec., 1885.		Remarks.
		M.	F.	M.	F.	M.	F.	
ON LOWER LIMB—*continued.*								
For painful stump	2	...	2	...	...	...	...	A portion of the popliteal nerve excised.
„ varicose veins	1	1	...	...	...	...	...	Ligatured antiseptically.
„ strumous disease of ankle	4	1	1	...	...	...	2	
„ talipes equino-varus	4	2	...	...	...	2	...	Wedge removed from tarsal arch.
„ caries of metatarsal bones	3	1	2	...	...	...	...	
„ hammer toe	4	1	3	...	...	...	...	
AMPUTATIONS:								
At middle of forearm	1	1	...	...	...	...	...	Diffuse cellulitis.
Of fingers	8	3	5	...	...	...	...	
At hip-joint	3	...	2	...	...	1	...	1. For an old dislocation; the head of the bone was excised in January, 1884. 2. Necrosis of the shaft of the femur and strumous disease of the knee. 3. Small-celled sarcoma of lower half of femur.
At upper third of thigh	1	...	...	1	...	...	...	For acute necrosis of femur; death from phthisis.
At middle third of thigh	1	...	...	...	...	1	...	For compound fracture of upper third of leg.
At lower third of thigh	2	...	...	1	1	...	...	1. For phlegmonous erysipelas. 2. For gangrene of leg.
At knee-joint	2	...	...	1	...	...	1	
At upper third of leg	1	1	...	...	...	...	...	For compound fracture of both bones.
At middle third of leg	1	1	...	...	...	...	...	For caries necrotica.
At lower third of leg	4	1	1	1	...	...	1	3 for strumous disease of foot; 1 caries of tarsus, death from bronchitis.
At middle (both legs)	1	1	...	...	...	...	...	For compound comminuted complicated fracture.
Of foot	1	...	1	...	...	...	...	For caries of tarsus.

TABLE III.—*Cases of Infectious Disease during the year* 1885.

No.	Sex.	Age.	Date of admission.	Disease for which admitted.	Hospital disease.	Result and date.	Fol. in Register.
1	M.	40	January 5th	Scalp wound	Erysipelas	Relieved, January 27th	2
2	F.	22	„ 13th	Painful stump	„	„ April 19th	8
3	F.	27	„ 14th	Septicæmia after parturition	Septicæmia	„ March 4th	5
4	M.	16	„ 28th	Wound of hand; pyæmia	Pyæmia	„ „ 1st	13
5	F.	22	March 11th	Abscess of jaw	Erysipelas	„ April 20th	
6	F.	53	„ 12th	Erysipelas	„	Death, September 6th	39
7	M.	34	„ 25th	Abscess of scalp	„	Relieved, May 1st	42
8	M.	48	April 4th	Sciatica	„	Death, „ 18th	66
9	M.	15	„ 29th	Varicocele	„	„ „ 20th	55
10	M.	26	May 4th	Wound of ear; erysipelas	„	Relieved „ 23rd	68
11	M.	6	June 3rd	Morbus coxæ	Scarlatina	„ January 1st, 1886	81
12	M.	49	August 26th	Cellulitis of arm	Pyæmia	Death, August 31st	124
13	F.	24	November 10th	Scalp wound; erysipelas	Erysipelas	Relieved, December 15th	161
14	F.	21	„ 23rd	Chronic mammary abscess	„	Death, November 25th	151

REPORT OF CASES IN "ARDEN WARD"

(FOR DISEASES OF WOMEN)

DURING THE YEAR 1885.

By F. SCOTT-SANDERS.

Number of patients under treatment, January 1st, 1885		9
„ „ admitted during the year 1885		83
Total		92
Number of patients discharged during the year:		
Cured or relieved	70	
Unrelieved	4	
		74
„ „ dead*		10
„ „ under treatment, December 31st, 1885		8
Total		92

Readmissions within the year are not counted as separate cases unless suffering from a different affection.

* Deaths: 1 from fibroid of uterus, 1 from epithelioma, 3 abdominal section, 1 from acute peritonitis, 1 from hæmatocele, 1 from pelvic tumour, and 2 from pyæmia.

Cases in "Arden Ward."

Nature of disease.	No. of case.	Initials.	Age.	Result.	No. in register.	Remarks, treatment, &c.
Uterus:						
α. Subinvolution . .	I	S. L.	30	Cured	H. 222	Hypodermic injection: Taurêt's ergotinine, ♏v bis die.
	II	M. B.	40	„	I. 41	Ergot and iron.
	III	A. H.	25	Relieved	I. 77	After miscarriage. Menorrhagia.
	IV	E. L.	30	„	I. 97	After miscarriage. Hypodermic of ergotinine.
β. Retroflexion . .	I	L. S.	24	„	H. 224	Hodge's pessary.
	II	H. C.	21	„	I. 7	Pessary.
	III	H. B.	21	Cured	I. 13	Tonics; rest.
	IV	E. F.	20	Relieved	I. 49	Modified Hodge's pessary.
γ. Retroversion . .	I	F. K.	24	„	H. 232	Pelvic peritonitis. After a fall.
	II	M. R.	21	„	I. 9	Glycerine plugs; pessary.
	III	E. L.	38	Unrelieved	I. 59	
	IV	M. H.	45	Relieved	I. 175	Hodge's pessary.
	V	G. B.	39	„	I. 198	Oblong pessary.
	VI	N. A.	25	Cured	I. 229	Glycerine plugs; iron and quinine.
	VII	M. B.	17	Relieved	I. 159	Oblong pessary.
δ. Prolapse . . .	I	E. H.	31	Cured	I. 31	Third degree. Ring pessary.
	II	E. C.	52	Relieved	I. 61	Third degree. Vulcanite ring pessary.
	III	S. A.	66	„	I. 73	Third degree. Ring pessary.
	IV	A. K.	43	„	I. 167	Rectocele; cystocele.
ε. Fibroid . . .	I	E. O.	46	Died	I. 1	Died under anæsthetic.
	II	E. H.	40	Improved	I. 25	Kept up by stem pessary.
	III	J. C.	53	Relieved	I. 63	
	IV	A. P.	48	„	I. 113	Hypodermic injection of ergotinine.
	V	E. G.	29	„	I. 129	Impacted. Ring pessary. Thirteen months after was well up in pelvis.
	VI	E. K.	59	„	I. 216	Pil. Ergotæ. Tumour reduced to half original size.

ζ. Polypoid	I	L. N.	39	Cured	I. 84	Écraseur—Wire rope.
	II	M. F.	44	„	I. 83	Removed by wire écraseur.
η. Malignant disease	I	R. V.	47	Died	I. 35	Epithelioma; removal. Pyæmia. Death 23 days after operation.
	II	H. L.	51	Unrelieved	I. 57	
	III	R. M.	35	„	I. 93	
	IV	A. G.	52	Relieved	?	Epithelioma; removal. No return 12 months after.
	V	S. D.	34	„	I. 125	Carcinoma uteri.
	VI	E. O.	29	„	I. 211	Epithelioma of cervix. Actual cautery. Scraping; chloride of zinc.
	VII	E. W.	42	Unrelieved	I. 214	Carcinoma of cervix. Refused to submit to treatment.
	VIII	S. B.	60	Relieved	I. 219	Carcinoma.
θ. Ulceration of cervix	I	E. D.	42	„	I. 234	Syphilitic.
ι. Stenosis of internal os	I	E. T.	33	„	—	
	II	J. H.	36	„	I. 189	Treated by incision.
	III	C. H.	24	„	—	
Ovaries:						
α. Chronic ovaritis	I	M. B.	22	„	I. 119	Following an acute attack.
	II	S. H.	23	„	I. 101	Gonorrhœa.
	III	M. K.	22	„	I. 79	Exposure during period.
β. Ovarian tumour	I	F. J.	38	„	I. 71	No operation.
	II	S. H.	50	„	I. 139	Not suitable for operation.
Affections of Vagina, Urethra, &c.:						
α. Prolapse of vagina	I	E. C.	52	„	—	
β. Recto-vaginal fistula	I	E. A.	68	„	—	Caused by a butterfly pessary being worn for prolapse.
γ. Labial abscess	I	E. B.	36	Cured	I. 105	Syphilis.
	II	A. P.	24	„	I. 107	No cause discovered.
δ. Epithelioma of fourchette	I	C. T.	50	„	H. 226	Growth removed by actual cautery.

CASES IN "ARDEN WARD"—*continued.*

Nature of disease.	No. of case.	Initials.	Age.	Result.	No in register.	Remarks, treatment, &c.
AFFECTIONS OF VAGINA, URETHRA, &c. — *continued.*						
ε. Vascular caruncle of the urethra	I	E. P.	50	Cured	I. 53	Removed.
	II	M. M.	53	„	—	Removed.
θ. Calculus in urethra	I	N. C.	18	Relieved	I. 46	Dysuria. Urethra dilated, stone removed.
ι. Sponge in vagina	I	A. C.	26	Died	I. 143	Pyæmia after the sponge had been worn 10 days.
DISORDERS OF MENSTRUAL FUNCTION:						
α. Amenorrhœa	I	E. H.	18	Cured	I. 161	Chlorosis.
	II	H. H.	28	Relieved	I. 153	Hysteria. Catamenia commenced at 11 years of age.
β. Menopause	I	J. M.	51	„	H. 228	Hysteria.
	II	J. B.	38	„	I. 43	Hysteria.
	III	J. G.	52	„	—	Constant vomiting.
DISORDERS DURING AND AFTER PREGNANCY:						
α. Sequela of abortion	I	E. G.	38	„	I. 133	Rest; quinine and iron. Menorrhagia.
	II	C. R.	37	„	I. 217	Prolonged rest.
	III	S. M.	38	„	I. 78	Menorrhagia.
β. Vomiting of pregnancy	I	E. J.	24	Cured	H. 234	Marked effect of oxalate of cerium.
γ. Albuminuric retinitis	I	M. P.	32	Relieved	I. 3	Seventh month of pregnancy.
δ. Puerperal mania	I	K. A.	23	Died	H. 230	Delivered Dec. 26th. Mania Jan. 7th. Numerous abscesses in broad ligament, both parotids, and in medulla.
ε. Mammary abscess	I	E. B.	23	Cured	I. 17	

ζ. Debility after parturition	I	S. A.	38	„	I. 143	Patient had alarming post-partum hæmorrhage.
η. Ruptured perinæum	I	D. S.	32	„	I. 109	Two deep and two superficial sutures.
PELVIS:						
α. Hæmatocele	I	E. E.	23	Relieved	I. 155	See article by Dr. Potter, in this volume.
	II	A. M.	25	„	I. 169	
	III	A. H.	37	Died	—	
	IV	M. C.	35	Relieved	I. 157	
β. Pelvic cellulitis	I	E. F.	26	Cured	I. 21	After confinement.
	II	R. S.	18	Relieved	I. 55	Ten weeks after confinement.
	III	A. M.	25	„	I. 123	After abortion.
	IV	J. A.	24	„	I. 149	Chronic.
	V	K. S.	26	„	I. 107	Exposure during period.
	VI	A. L.	19	„	I. 27	After miscarriage.
γ. Pelvic peritonitis	I	F. R.	24	Cured	H. 232	Retroversion.
	II	E. P.	34	Died	I. 69	Third day after delivery. Death from hyperpyrexia. T. 109·3°.
	III	E. C.	29	Relieved	I. 141	Exposure after menstruation.
	IV	K. B.	25	Cured	I. 147	Six days after parturition.
	V	M. G.	33	„	—	After delivery. T. 107·4°.
	VI	E. D.	25	„	I. 184	Exposure during menstruation.
	VII	J. P.	26	„	I. 201	After abortion.
	VIII	A. C.	18	„	I. 203	
δ. Contracted pelvis	I	M. F.	31	Relieved	—	Admitted Jan. 5th. Induced labour. Discharged Jan. 17th. Child born alive.
ABDOMINAL SECTION	I	C. G.	26	„	I. 115	Cyst of ovary; removed; very successful. Antiseptic.
	II	E. O.	36	Died	I. 163	Cyst of ovary; unusually large. Death 10 days after operation.
	III	L. W.	19	Relieved	—	Multilocular cyst of ovary.
	IV	J. C.	42	Died	I. 65	Cyst of both ovaries. Death 2 days after operation.
	V	C. D.	52	„	I. 238	Cystic disease of right ovary; could not be removed owing to adhesions. Death in 12 hours.
DOUBLE PYO-NEPHROSIS	I	M. P.	37	„	I. 51	Large tumour between vagina and bladder.

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